

**Warren  
Tool  
Group**

**COLUMBIAN**  
**HARGRAVE**  
SINCE 1879  
**Warren**

VICES • CLAMPS • CHISELS • PUNCHES • BARS • EARTHMOVING TOOLS • HANDLES • HAMMERS  
WOODSPLITTING TOOLS • BLACKSMITHS' AND CONSTRUCTION TOOLS  
RAILROAD/TRACK MAINTENANCE TOOLS



**GIS SUPPLY**

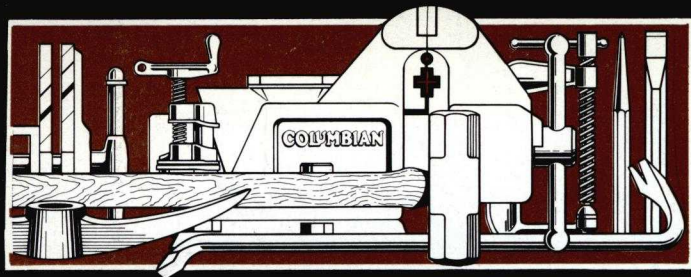
A Kennametal Company

Garrett Industrial Supply  
550 VIRGINIA DRIVE, FORT WASHINGTON, PA 19034  
(215) 643-4050 • (800) 525-5455 • FAX: (215) 643-3219

TOLL FREE-1-800-543-3224 FAX NO.-1-800-543-3225

**WE MAKE TOOLS, BUT WE SELL SATISFACTION...**





**Warren  
Tool  
Group**

**COLUMBIAN**  
**HARGRAVE**  
SINCE 1879  
**Warren**

This catalog combines the products of Warren Tool Division, Columbian Vise Division and Hargrave Tool Division. The Warren Tool Group functions as the marketing organization for all three manufacturing plants.

## Table of Contents

<b>COLUMBIAN VISES</b>	3
Machinists' Vises	4
Combination Pipe Vises	4
Workshop Vises	4
Specialty Vises	5
Vise Accessories	4,5
Woodworkers' Vises	6,7
<b>HARGRAVE CLAMPS</b>	8
Forged C-Clamps	9
Cast C-Clamps	10,11
Welders' C-Clamps	10
Deep Reach C-Clamps	9,10,11
Super Junior C-Clamps	11
Gluing Clamps	12
Mitre Frame Clamps	12
Spring Clamps	12
Hand Screws	12
Bar Clamps	13
<b>HARGRAVE CHISELS AND PUNCHES</b>	14
Chisels	15,16
Punches	16,17
Kits and Displays	18,19
<b>Warren Tools</b>	
Bars	20,21,22,23
Earthmoving Tools	24,25
Eye Specifications	26
Handles	26
Hammers	27,28,29
Woodsplitting Tools	30
Blacksmiths' and Construction Tools	31
Railroad Track Maintenance Tools	32,33,34

### How to order:

You may order all Four product lines on the same order. One order will enable us to process your order and ship by the fastest, most economical method.

One order will reduce your costs of purchasing, receiving and accounting. One order will make it easier to achieve the prepaid minimum shipment, regardless of product mix. Please send all orders to The Warren Tool Group, P.O. Box 68, Hiram, Ohio 44234.

All items herein have NIDA-SIDA five digit numbers.

The Warren Tool Group manufacturer's code number is 698580.

## Warren Tool Group

11900 WINROCK RD • P.O. BOX 68 • HIRAM, OHIO 44234 • (216) 569-3224

TOLL FREE-1-800-543-3224 FAX NO.-1-800-543-3225



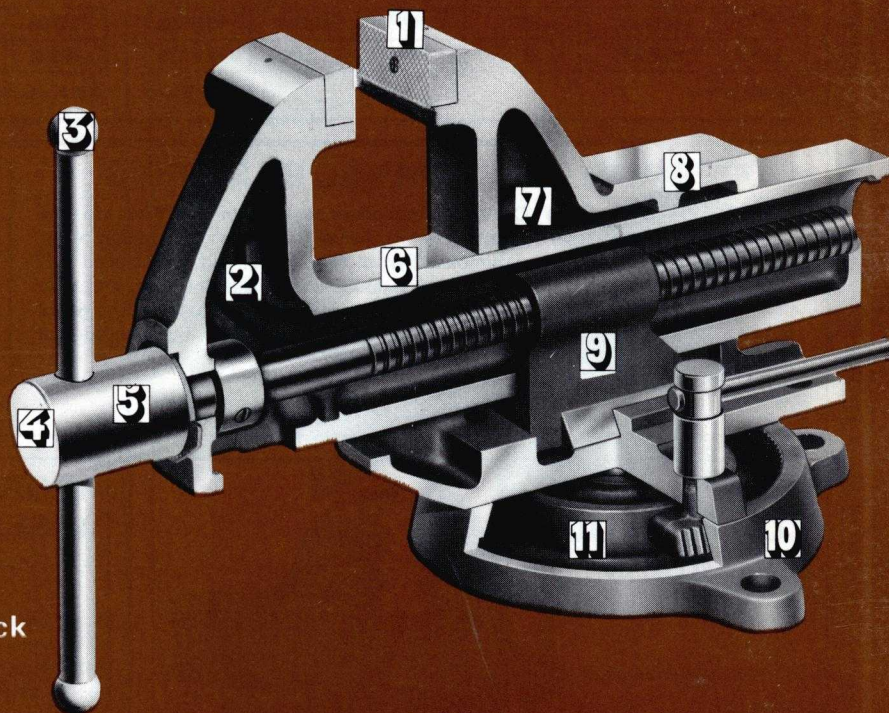
# COLUMBIAN<sup>®</sup> VISES

Vises in the Colombian line manufactured in our plants have many unique and exclusive features. Undoubtedly the most outstanding is the unconditional, lifetime guarantee on our Machinists' Vises. These vises have back jaw, front jaw, vise nut and base plate all of malleable or ductile iron.

The same quality is built into the rest of the Colombian line. From the workshop, homeshop, and woodworkers' vises you get quality that's dependable and easy to sell.

## COLUMBIAN MACHINISTS' VISES GUARANTEED

- 1** Removable hardened tool steel faces. Easily replaceable.
- 2** Malleable or ductile iron front jaw with heavy internal ribs for added strength. Guaranteed.
- 3** Steel handle balls forged from handle stock. Can't come loose.
- 4** Powerful cold-rolled steel screw.
- 5** Self-lubricating graphite bronze thrust bearing. Reduces friction. Prevents wear. Eliminates end play.
- 6** Front jaw beam covers and protects screw.
- 7** Longer back jaw body for perfect alignment. Malleable or ductile iron castings. Guaranteed.
- 8** Large ground and polished anvil.
- 9** Precision-machined nut and back jaw keyway guarantee positive alignment.
- 10** Malleable or ductile iron base. Guaranteed. Swivels full 360°.
- 11** Tapered-gear lock bolt prevents slippage.



TOLL FREE-1-800-543-3224

ALWAYS WEAR SAFETY GOGGLES WHEN USING HAND TOOLS



## SWIVEL BASE MACHINISTS' VICES



America's most popular machinists' vise. Swivels full 360°. Geared bolt and base plate afford positive lock against slippage. Malleable or ductile iron castings guaranteed. Steel handle balls forged from handle stock. Self-lubricating graphite bronze bearing. Removable hardened tool steel jaw faces. All sizes, except 6" and 8", have ground and polished anvil.

Item No.	Vise No.	Jaw Width	Jaw Opening	Throat Depth	Weight
10201	603M3	3"	4"	3"	25 Lbs.
10202	603-1/2M3	3-1/2"	5"	3-1/4"	35 Lbs.
10203	604M3	4"	6"	3-5/8"	46 Lbs.
10204	604-1/2M3	4-1/2"	7"	4-1/8"	57 Lbs.
10205	605M3	5"	8"	4-1/4"	70 Lbs.
10206	606M3	6"	10"	4-3/8"	107 Lbs.
10208	608M3	8"	12"	6"	184 Lbs.

One in a carton.

FLC-2701

## STATIONARY BASE MACHINISTS' VICES

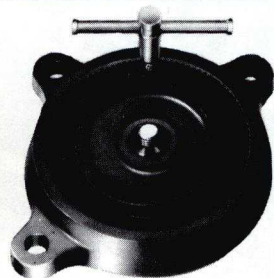


Flat base makes it unnecessary to cut bench. Malleable or ductile iron castings guaranteed. Steel handle balls forged from handle stock. Self-lubricating graphite bronze bearing. Removable hardened tool steel jaw faces. All sizes, except 6" and 8", have ground and polished anvil.

Item No.	Vise No.	Jaw Width	Jaw Opening	Throat Depth	Weight
10101	503M3	3"	4"	3"	21 Lbs.
10102	503-1/2M3	3-1/2"	5"	3-1/4"	30 Lbs.
10103	504M3	4"	6"	3-5/8"	38 Lbs.
10104	504-1/2M3	4-1/2"	7"	4-1/8"	49 Lbs.
10105	505M3	5"	8"	4-1/4"	60 Lbs.
10106	506M3	6"	10"	4-3/8"	92 Lbs.
10108	508M3	8"	12"	6"	160 Lbs.

One in a carton.

FLC-2701



## SWIVEL BASE KITS

Columbian stationary base Machinists' Vises are easily converted to Swivel Base Vises by addition of the Columbian Swivel Kit. Swivel can be installed in 2 minutes. Kit includes swivel base, lock nut, lock bolt, center bolt, washer, bushing and plug cap. Danger of slipping is completely eliminated by tapered-gear lock bolt.

Item No.	Kit No.	Fits Vise No.	Weight
10601	563	503M3	4 Lbs.
10602	563-1/2	503-1/2M3	5 Lbs.
10603	564	504M3 - 504-1/2M3	8 Lbs.
10605	565	505M3	10 Lbs.
10606	566	506M3	15 Lbs.
10608	568	508M3	24 Lbs.

One in a carton.

## SWIVEL BASE COMBINATION PIPE VICES



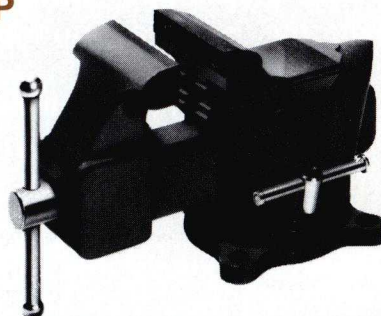
Tool steel pipe jaws heat treated to insure hardness and strength. 3 jaws are interchangeable; each has 2 working faces. Special pipe jaws design makes possible holding pipe down to 1/8 inch. Pipe jaws do not protrude beyond jaw faces. Other work can be held without removing pipe jaws. Malleable or ductile iron castings guaranteed. Steel handle balls forged from handle stock. Self-lubricating graphite bronze bearing.

Item No.	Vise No.	Jaw Width	Jaw Opening	Throat Depth	Pipe Capacity	Weight
10403	203-1/2M3	3-1/2"	4"	4"	1/8"-2-1/2"	38 Lbs.
10404	204-1/2M3	4-1/2"	5"	5-3/8"	1/8"-3-1/2"	61 Lbs.
10405	205M3	5"	6"	6-1/4"	1/8"-4-1/2"	95 Lbs.
10406	206M3	6"	10"	7-1/8"	1/8"-6"	162 Lbs.

One in a carton.

FLC-2701

## WORKSHOP VICES



An excellent utility vise. Heavy-duty steel front jaw beam covers screw. Extra large back jaw anvil and anvil horn. Cold rolled steel screw. Handle balls forged from handle stock. Replaceable malleable iron nut, Acme thread. Replaceable compressed powdered metal jaw faces. Permanent pipe jaws, positive "Tri-Grip" design. Positive locking swivel base, slip handle, lock nut. Polished jaws and anvil, bright red finish. Screw, handle, and lock nut bright zinc plated.

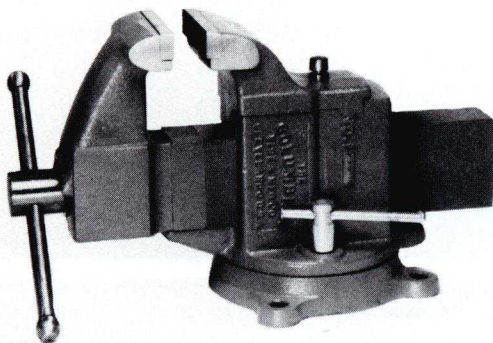
Item No.	Vise No.	Jaw Width	Jaw Opening	Pipe Capacity	Weight
11103	D43-1/2	3-1/2"	4"	1/8"-1-1/4"	16 Lbs.
11104	D44	4"	5"	1/8"-2"	27 Lbs.
11105	D45	5"	6"	1/8"-2-1/2"	38 Lbs.
11106	D46	6"	6"	3/8"-2-3/4"	60 Lbs.

Individual cartons. D43 1/2 packed 5 in case. D44, D45 & D46 packed 1 in case.

FLC-2701



## ADJUSTABLE JAW SWIVEL BASE VISE



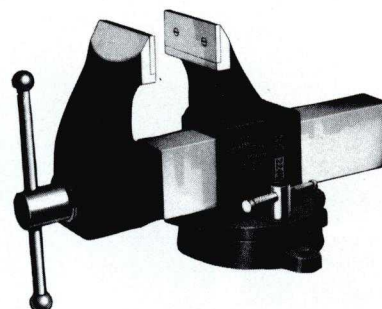
Ideal for wide range of work. Indispensable in tool room or shop. With pin in place, swivel back jaw is locked rigidly for use as parallel jaw vise. Removal of pin permits adjustment of back jaw to firm grip on irregular or tapering pieces. Malleable or ductile iron castings guaranteed. Steel handle balls forged from handle stock. Self-lubricating graphite bronze bearings. Hardened tool steel replaceable jaw faces.

Item No.	Vise No.	Jaw Width	Jaw Opening	Throat Depth	Weight
10304	404-1/2M3	4-1/2"	6"	4-1/8"	59 Lbs.

One in a carton.

FLC-2701

## SHEET METAL WORKERS' VISE



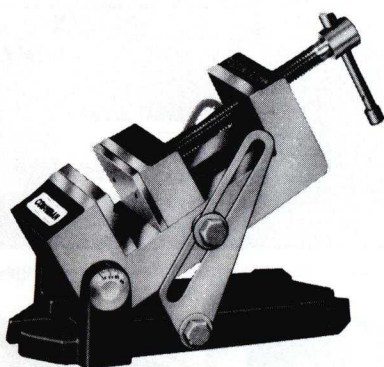
Specially designed for sheet metal work, wood working and body work. High tapering jaws with extra deep smooth faces. Malleable or ductile iron castings guaranteed. Replaceable steel jaw faces.

Item No.	Vise No.	Jaw Width	Jaw Opening	Throat Depth	Weight
10504	224-1/2M2	4-1/2"	9"	5-7/8"	63 Lbs.

One in a carton.

FLC-2701

## ANGLE VISE



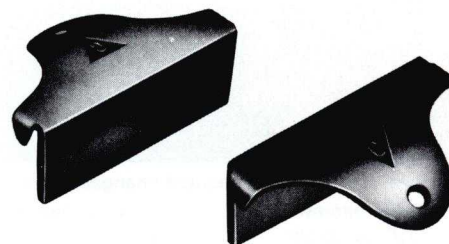
For drill press, milling machine, grinder and bench work. Makes quick, accurate setups without clamps or wedges. Adjusts to any angle, 0° to 90°. Can be used as ordinary vise when horizontal. Accurately graduated for all angles. Grooved steel jaw for holding round or tapered pieces. Steel, adjustable support screws. Over-all length, 9 inches.

Item No.	Vise No.	Jaw Width	Jaw Depth	Jaw Opening	Screw Diameter	Weight
10802	225	2-1/2"	1-1/2"	2-1/2"	1/2"	8 Lbs.

One in a carton.

FLC-2701

## COPPER JAW CAPS



Fit snugly over jaws and cover knurled steel faces to prevent marring of soft materials. Easily installed and removed.

Item No.	Jaw Width	Item No.	Jaw Width
14401	3"	14404	4-1/2"
14402	3-1/2"	14405	5"
14403	4"	14406	6"

## DRILL PRESS AND MILLING MACHINE VISES



Eliminates need for special and expensive jigs and fixtures. Provides maximum clamping and holding power. Choice of plain or steel jaw faces. Acme-threaded, cold-rolled steel screw. Swivel crank handle drops out of way. 4 key slots provide precision mounting. All parts replaceable and interchangeable.

Item No.	Vise No.	Jaw Width	Jaw Depth	Jaw Opening	Jaw Style	Screw Diameter	Weight
10713	1513-1/2	3-1/2"	1-7/8"	4-1/2"	Plain	3/4"	17-1/2 Lbs.
10715	1515	5"	2"	6-7/8"	Plain	7/8"	29-1/2 Lbs.
10725	1525	5"	2"	6"	Steel	7/8"	32 Lbs.

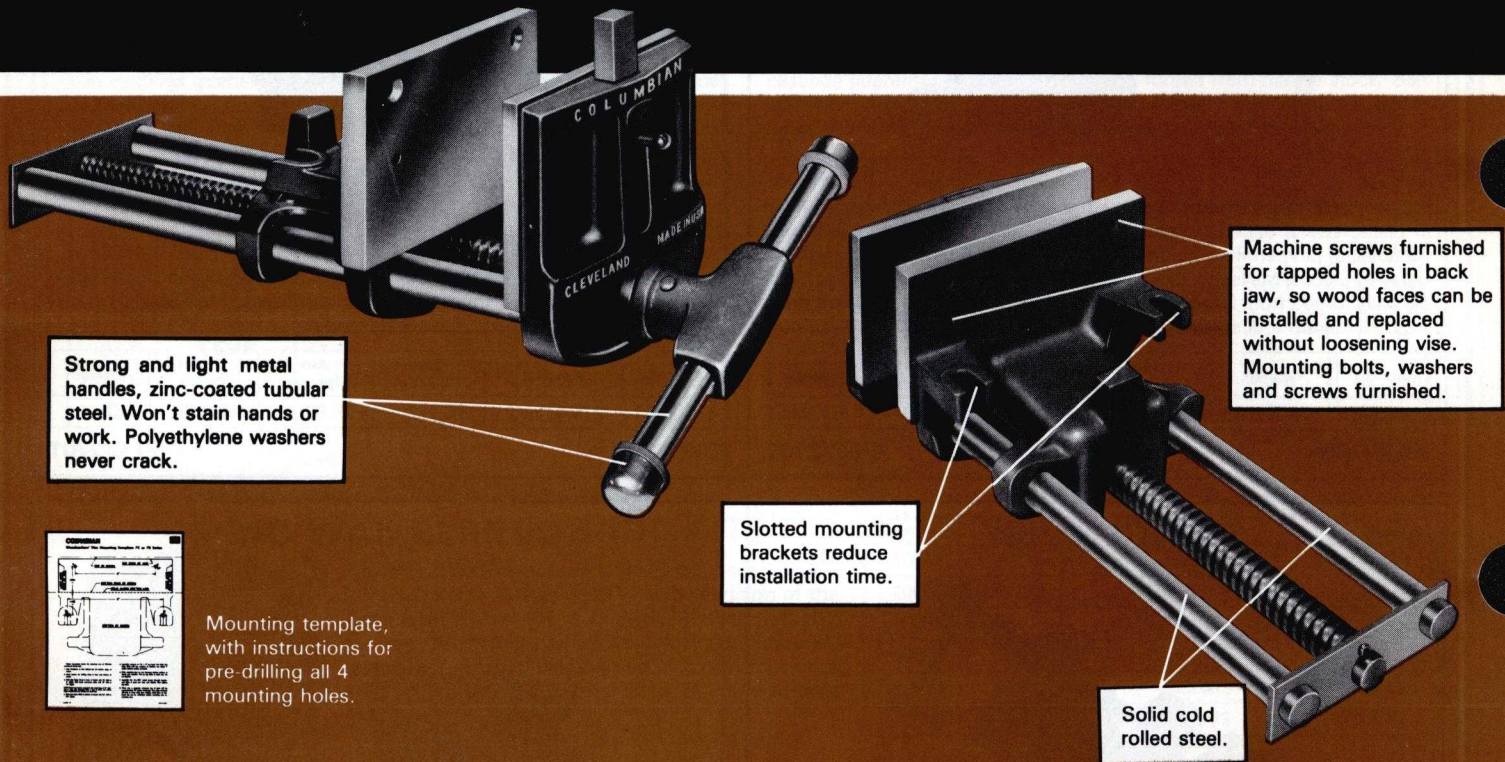
One in a carton.

FLC-2701



# COLUMBIAN® WOODWORKERS' VISES

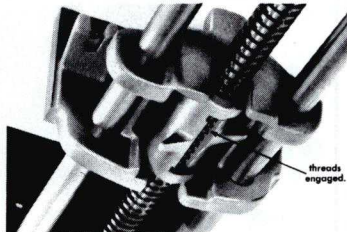
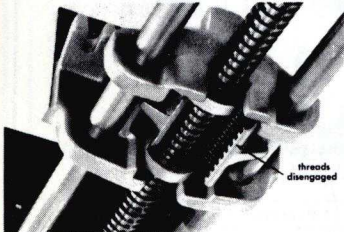
Recognized as the standard of the industry and found in schools and woodworking factories throughout the world, Columbian woodworkers' vises offer many special features to provide maximum value to your customers.



## Choice of 2 Continuous Screw Mechanisms

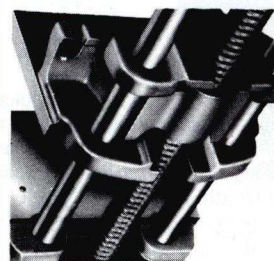
**Rapid Acting...** for fast and frequent changes in jaw opening counter-clockwise operation

clockwise operation



"Power-Slide" mechanism incorporates a controlled friction clutch. Counter-clockwise operation disengages threads, permits fast jaw movement. Clockwise operation engages threads, producing continuous jaw movement and high pressure non-slip holding power.

**Solid Nut...** for maximum strength and longest life



solid nut



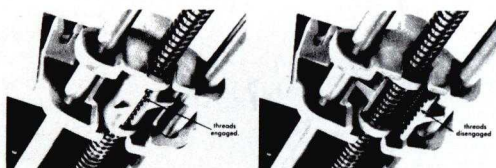
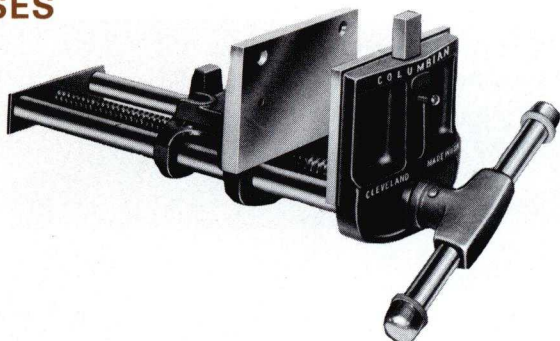
Double lead thread provides maximum speed of operation with solid nut.

TOLL FREE-1-800-543-3224

ALWAYS WEAR SAFETY GOGGLES WHEN USING HAND TOOLS



## RAPID ACTING CONTINUOUS SCREW WOODWORKERS' VISES



**RAPID ACTING**

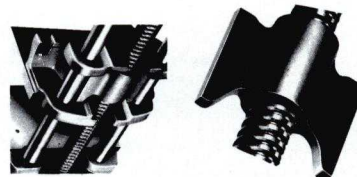
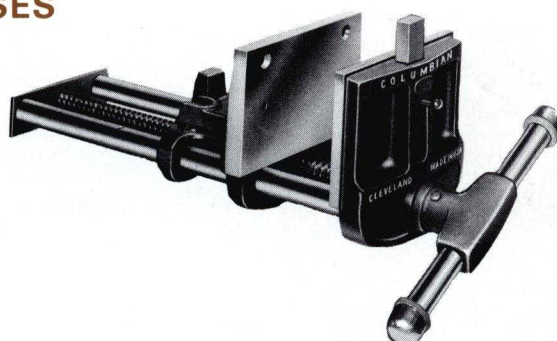
For use where changes in jaw openings must be made frequently and fast. Clockwise operation engages "Power-Slide" mechanism with continuous thread screw for unrestricted inward motion and holding power. Counter-clockwise operation disengages mechanism for "fast-sliding" adjustment of jaw opening. Vises furnished with dog type front jaw for use with bench stops.

Item No.	Vise No.	Jaw Size	Jaw Opening	Weight
11802	7RD	4" x 7"	9"	28 Lbs.
11812	10RD	4" x 10"	12"	34 Lbs.

One in a carton.

**FLC-2701**

## SOLID NUT CONTINUOUS SCREW WOODWORKERS' VISES



**SOLID NUT**

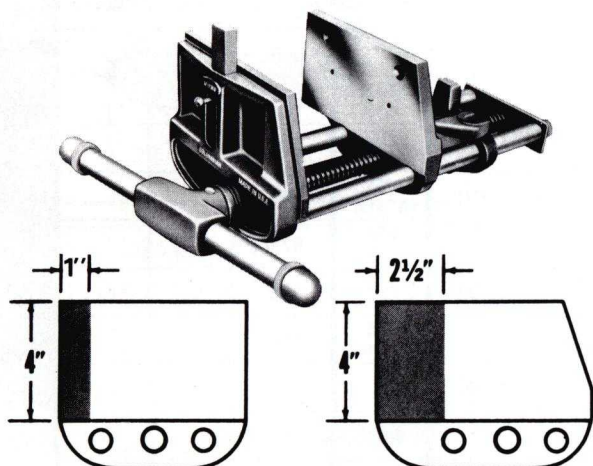
For general industrial and school woodworking. Heavy steel screw with double lead, fast running thread provides maximum operating speed. Solid nut assures long, repair-free life. Vises furnished with dog type front jaw for use with bench stops.

Item No.	Vise No.	Jaw Size	Jaw Opening	Weight
11902	7CD	4" x 7"	9"	28 Lbs.
11912	10CD	4" x 10"	12"	34 Lbs.

One in a carton.

**FLC-2701**

## "WIDE-SIDE" VISE



**CONVENTIONAL 7" VISE**

**COLUMBIAN 7" "WIDE-SIDE"**

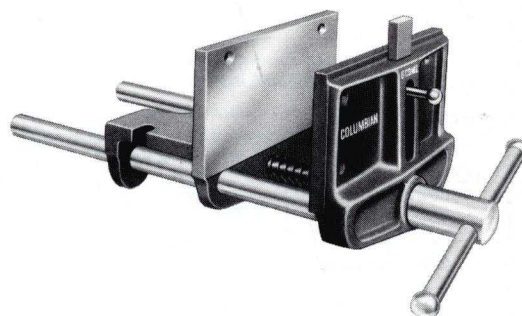
7-inch Woodworkers' Vise with 2-1/2 inch clamping area on the left side where it is needed most. Clamping area is 20% larger than that of conventional 7-inch Woodworkers' Vise. Dog type front jaw for use with bench stops.

Item No.	Vise No.	Jaw Size	Jaw Opening	Nut Type	Weight
12102	V7RD	4" x 7"	9"	Rapid Act.	30 Lbs.

One in a carton.

**FLC-2701**

## WOODCRAFT VISE



Dog in front jaw. Strong cast iron jaws. Cold-rolled steel screw and screw head. Zinc-plated steel handle with balls forged from handle stock. Holes for wood faces. Fits bench up to 2-1/4 inches thick.

Item No.	Vise No.	Jaw Size	Jaw Opening	Weight
12201	6CD	3" x 6"	7"	10 Lbs.

One in a carton.

**FLC-2701**



# **HARGRAVE** **CLAMPS** SINCE 1879

We can provide you with a large selection of clamps. The Hargrave line extends from the simple Spring Clamp with 18 lbs. pressure to the #40 Forged Steel Super Clamp that will handle a 40,000 lb. test load. With the Hargrave line you'll be able to offer customers just the right clamp for the job.

## SAFETY RULES, REQUIREMENTS AND LIMITATIONS OF C-CLAMPS AND CLAMPING TOOLS

1. Always wear safety goggles to protect your eyes.
2. Always select the clamp to match the job by ascertaining the following:
  - What is the required opening?
  - What is the required depth?
  - What strength and weight are required?
  - Evaluate the type of clamp to use — bar clamp, C-clamp, spring clamp, etc. Using the right clamp will save time.
3. Remember that C-clamps serve only as temporary devices for holding the work securely in place. Clamps should be removed as soon as the required job has been finished.
4. Use pads with C-clamps to avoid marring the work.
5. Discard any clamp that has a bent frame or a bent screw.
6. Do not use a wrench, pipe, hammer, or pliers to gain extra tightening; a wrench should be used only on those clamps especially designed for tightening with a wrench.
7. Never use a C-clamp for hoisting work. Special lifting clamps are made for this purpose.
8. Avoid using extra large clamps just for the sake of their large throats; instead use deep-throated clamps.
9. Never use a C-clamp for hoisting or for supporting a scaffold or platform that may be used to carry people.
10. Do not use C-clamps for securing a load that may be carried over a public highway; vibration may cause the clamps to loosen and the load to break loose.
11. Keep all moving parts lightly oiled and clean; however, make sure there is no dirt or oil on any part that will come in contact with the work.
12. Make sure the swivel (tip) at the end of the screw is turning freely before using.
13. Warren Tool Corporation cannot be responsible for injury or damage caused by tools improperly used, or from tools which have been abused or badly worn.

**TEST LOAD COMPARISON CHART**

	#40	#42 #43	#400 Body	#41 #44	#540 Carr.	DEEP REACH			JUNIOR CLAMPS			
							#48	#573		Super	550	560
2"		10,000	3,300	2,700	2½" 1,100	1 ½"			#50 1"x1"	500		
3"	12,500		3,500	3,000	1,800	2 ½"			#51 1"x1½"	500		
4"		11,250	4,100	3,700	2,150	3"			#52 1¼"x1¼"	800		
5"	20,000	12,500			2,250	3 ½"		1,400	#53 1½"x1½"	850		
6"			5,400	4,500	2,450	4"			#54 2"x1¼"	875		
8"	27,500		5,900	5,200	2,750	4 ½"		1,400	#55 3"x1-3/8"	1100		
10"	31,250		6,200	6,000	2,250	6"x8"	2,200		#56 2½"x2½"	850		
12"	35,000		9,300	8,000	2,850	6 ½"		1,400				
14"	40,000				2,850	8"x12"	1,800		1¼"			450
						12"x16"	1,500		2½"		700	550
									4"		1150	
									6"		650	

**TOLL FREE-1-800-543-3224**

**ALWAYS WEAR SAFETY GOGGLES WHEN USING HAND TOOLS**



### HEAVY SERVICE FORGED STEEL SUPERCLAMPS® NO. 40



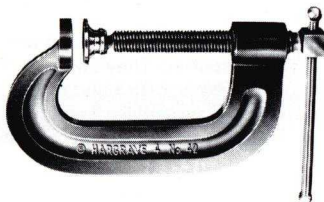
Frame is forged, high strength, heat-treated steel. Large diameter screws are hardened steel to prevent bending, protect threads. Clamp strengths exceed test loads shown below.

Item No.	Stock No.	Maximum Opening	Minimum Opening	*Depth	Screw Diameter	Test Load	Weight Each
20204	2	2-1/4"	0	1-7/8"	3/4"	12,500 Lbs.	3-3/4 Lbs.
20206	4	4-1/2"	0	2-3/4"	7/8"	20,000 Lbs.	10 Lbs.
20208	6	6-1/2"	0	3-3/8"	1-1/8"	27,500 Lbs.	17 Lbs.
20209	8	8-1/2"	0	3-3/4"	1-1/8"	31,250 Lbs.	24 Lbs.
20210	10	10-1/2"	0	4-1/8"	1-1/8"	35,000 Lbs.	29 Lbs.
20211	12	12-1/2"	0	4-1/2"	1-1/8"	40,000 Lbs.	40 Lbs.

\*Depth is from center of screw to frame.  
Conforms to Fed. Spec. GGG-C-406C and Commercial Item Description A-A-433,  
Type 1, Class D, heavy service.

FLC-2702

### MEDIUM SERVICE FORGED STEEL SUPERCLAMPS® NO. 42



Patented frames are high strength, heat-treated steel. Large diameter screws are specially manufactured to prevent bending and protect threads. Clamp strength exceeds test loads listed below. Sliding pin (vise-type) handle, oscillating ball and socket tip.

Item No.	Maximum Opening	Minimum Opening	*Depth	Screw Diameter	Test Load	Weight Each
21001	4"	0	2-1/2"	3/4"	10,000 Lbs.	4-1/2 Lbs.
21002	6"	2-5/8"	2-3/4"	3/4"	11,250 Lbs.	5-1/2 Lbs.
21003	8"	4-3/4"	2-3/4"	3/4"	12,500 Lbs.	6 Lbs.

\*Depth is from center of screw to frame.  
Conforms to Fed. Spec. GGG-C-406C and Commercial Item Description A-A-431,  
Style 1, Type 1, Class B, Grade A, forged frame, medium service.

FLC-2702

### DEEP GENERAL PURPOSE BODY CLAMPS NO. 400



A featured series since 1921. Steel frame, drop forged and heat-treated for maximum strength. Specially manufactured screw prevents bending and battering of threads. Sliding pin (vise-type) handle and ball and socket tip.

Item No.	Clamp No.	Maximum Opening	Minimum Opening	*Depth	Screw Diameter	Test Load	Quantity Per Box	Weight Per Box
20301	402	2"	0	2"	1/2"	3,300 Lbs.	1	1-1/2 Lbs.
20302	403	3"	0	2-3/8"	1/2"	3,500 Lbs.	1	1-3/4 Lbs.
20303	404	4"	0	2-3/4"	5/8"	4,100 Lbs.	1	2-3/4 Lbs.
20304	406	6"	0	3-5/8"	3/4"	5,400 Lbs.	1	4-3/4 Lbs.
20305	408	8"	0	4-1/2"	7/8"	5,900 Lbs.	1	8-1/2 Lbs.
20306	410	10"	0	5-3/8"	7/8"	6,200 Lbs.	1	10-1/2 Lbs.
20307	412	12"	0	5-3/4"	7/8"	9,300 Lbs.	1	14 Lbs.

\*Depth is from center of screw to frame. Packed one clamp per box.  
Conforms to Fed. Spec. GGG-C-406C, and Commercial Item Description A-A-429,  
Style 2, Type 1, Class A, Grade A.

FLC-2702

### FORGED STEEL SUPERCLAMPS® NO. 44



Frame is high strength heat treated steel. Handle is sliding pin (vise-type). Large diameter screws run full length in all sizes, and are specially manufactured to prevent bending and damage to threads.

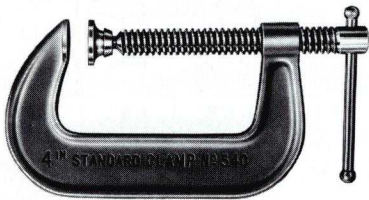
Item No.	Maximum Opening	*Depth	Screw Diameter	Test Load	Weight
* 21103	2"	1-3/4"	1/2"	2,700 Lbs.	6 Lbs./Box
* 21104	3"	2-1/4"	1/2"	3,000 Lbs.	9 Lbs./Box
* 21105	4"	2-1/2"	5/8"	3,700 Lbs.	13-1/2 Lbs./Box
* 21106	6"	3-1/8"	5/8"	4,500 Lbs.	21 Lbs./Box
21107	8"	3-3/4"	3/4"	5,200 Lbs.	5-1/2 Lbs. Each
21108	10"	4"	7/8"	6,000 Lbs.	8 Lbs. Each
21109	12"	4-1/4"	7/8"	8,000 Lbs.	9-1/2 Lbs. Each

\*Depth is from center of screw to frame.  
\*Packed 6 per box. Other sizes in bulk.  
Conforms to Fed. Spec. GGG-C-406C, and Commercial Item Description A-A-429,  
Style 1, Type 1, Class A-Grade A. Forged frame, light service.

FLC-2702



### STANDARD® CARRIAGE CLAMPS NO. 540



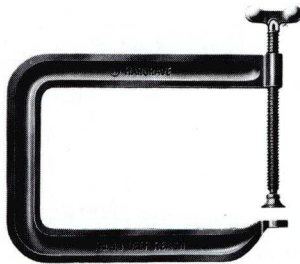
Our Specialty since 1891. Frames made from high strength ductile iron castings for greatest strength. Superior design provides sliding pin (vise-type) handle, single 'Acme' thread screw and oscillating ball and socket tip. Frame shaped for greatest strength for weight.

Item No.	Opening	*Depth	Screw Diameter	Test Load	Quantity Per Box	Weight Per Box
22001	2-1/2"	1-3/4"	1/2"	1,100 Lbs.	6	5-1/2 Lbs.
22002	3"	1-7/8"	1/2"	1,800 Lbs.	6	6 Lbs.
22003	4"	2-1/16"	5/8"	2,150 Lbs.	6	11 Lbs.
22004	5"	2-1/2"	5/8"	2,250 Lbs.	6	14 Lbs.
22005	6"	2-3/4"	5/8"	2,450 Lbs.	6	17 Lbs.
22006	8"	3-1/4"	3/4"	2,750 Lbs.	1	4 Lbs.
22007	10"	3-5/8"	7/8"	2,250 Lbs.	1	7 Lbs.
22008	12"	3-5/8"	7/8"	2,850 Lbs.	1	8-1/2 Lbs.
22009	14"	3-3/4"	7/8"	2,850 Lbs.	1	9 Lbs.

\*Depth is from center of screw to frame.

FLC-2702

### DEEP REACH SUPERCLAMPS® NO. 48



Forged steel frame and unique design makes this an excellent clamp for deep reach, medium service.

Item No.	Opening	*Depth	Size Steel	Screw Diameter	Test Load	Weight Each
21201	6'' x	8''	1/2''x2''	5/8''	2,200 Lbs.	8-1/2 Lbs.
21202	8'' x	12''	1/2''x2''	3/4''	1,800 Lbs.	11-1/2 Lbs.
21204	12'' X	16''	5/8''x2''	3/4''	1,500 Lbs.	19-1/2 Lbs.

\*Depth is from center of screw to frame.

FLC-2702

Conforms to Fed. Spec. GGG-C-406C, and Commercial Item description A-A-431, Style 2, Type 1, Class B, Grade A, forged frame, medium service.

### DEEP REACH STANDARD® CARRIAGE CLAMPS NO. 573



A medium weight clamp similar to standard clamp but with deeper reach. Strong malleable or ductile iron frame, steel screw with malleable or ductile iron handle and oscillating (ball and socket) steel tip.

Item No.	Opening	*Depth	Screw Diameter	Test Load	Weight Each
26301	3-1/2"	4-1/2"	5/8"	1,400 Lbs.	2-3/4 Lbs.
26302	4-1/2"	4-1/2"	5/8"	1,400 Lbs.	3 Lbs.
26303	6-1/2"	4-1/2"	5/8"	2,000 Lbs.	4 Lbs.

\*Depth is from center of screw to frame.

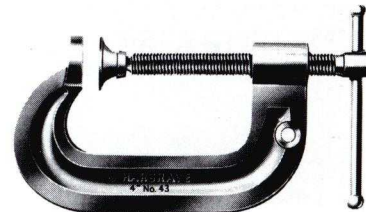
FLC-2702

### FORGED STEEL WELDERS' CLAMPS

#### SOLID ALLOY SPATTER-RESISTING SCREWS

The screws of Nos. 41 and 43 are made of special bronze alloy (solid, not plated or coated) that resists spatter. They are large in diameter to prevent bending or breaking. Oscillating (ball and socket) tip is steel. Frames are forged steel, and drilled for ground connections.

#### HEAVY DUTY NO. 43



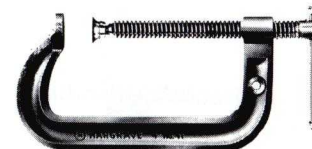
Item No.	Maximum Opening	Minimum Opening	*Depth	Screw Diameter	Test Load	Weight Each
20601	4"	0	2-1/2"	7/8"	10,000 Lbs.	4-1/2 Lbs.
20602	6"	0	2-3/4"	1"	11,250 Lbs.	6 Lbs.
20603	8"	2-3/16"	2-3/4"	1"	12,500 Lbs.	7 Lbs.

Packed 1 per Box.

\*Depth is from center of screw to frame.

FLC-2702

#### REGULAR DUTY NO. 41



Item No.	Maximum Opening	Minimum Opening	*Depth	Screw Diameter	Test Load	Weight Each
20503	4"	0	2-1/2"	5/8"	3,700 Lbs.	2 Lbs.
20504	6"	0	3-1/8"	3/4"	4,500 Lbs.	3-1/2 Lbs.

Packed 1 per Box.

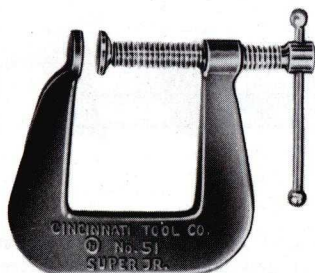
\*Depth is from center of screw to frame.

FLC-2702



## SUPER JUNIOR® CLAMPS

### NO. 51



### NO. 55



Famous since 1945. Steel screws are plated for longer life. Super Junior "C" Clamps give more strength, longer life and greater value for all classes of work.

Item No.	Clamp No.	Opening	*Depth	Test Load	Quantity Per Box	Weight Per Box
21301	50	1"	1"	500 Lbs.	12	1-1/2 Lbs.
21311	50	1"	1"	500 Lbs.	100	12 Lbs.
21302	51	1"	1-1/2"	500 Lbs.	12	2 Lbs.
21312	51	1"	1-1/2"	500 Lbs.	100	16 Lbs.
21303	52	1-1/4"	1-1/4"	800 Lbs.	12	2-1/2 Lbs.
21313	52	1-1/4"	1-1/4"	800 Lbs.	100	20 Lbs.
21304	53	1-1/2"	1-1/2"	850 Lbs.	12	3-1/2 Lbs.
21314	53	1-1/2"	1-1/2"	850 Lbs.	100	29 Lbs.
21305	54	2"	1-1/4"	875 Lbs.	6	2 Lbs.
21315	54	2"	1-1/4"	875 Lbs.	100	33 Lbs.
21306	55	3"	1-3/8"	1100 Lbs.	6	3-1/2 Lbs.
21316	55	3"	1-3/8"	1100 Lbs.	100	58 Lbs.
21307	56	2-1/2"	2-1/2"	850 Lbs.	6	4 Lbs.
21317	56	2-1/2"	2-1/2"	850 Lbs.	100	66 Lbs.

\*Depth is from center of screw to frame.

FLC-2702

## JUNIOR® CLAMP NO. 556



### Deep Reach Patterns with Button Type Tip

Designed especially for model and pattern making, aircraft construction and other medium clamping operations. Malleable or ductile iron frame has rust-resisting finish. Steel screw, oscillating (ball and socket) tip.

Item No.	Clamp No.	Opening	*Depth	Test Load	Quantity Per Box	Weight Per Box
22101	551	4"	2-7/8"	1,150 Lbs.	6	8-1/8 Lbs.
22102	552	6"	3-1/4"	650 Lbs.	6	14-1/4 Lbs.
22104	556	2-1/2"	4-1/2"	700 Lbs.	6	7 Lbs.

\*Depth is from center of screw to frame.

FLC-2702

## SMALL C-CLAMPS NO. 566, 568

Nos. 566N and 568N Have Nylon Caps on Tip and Foot.



### Strong malleable or ductile iron frames and steel screws.

Used extensively in aircraft and many other industrial plants. Flat wing handle and tip. Natural finish.

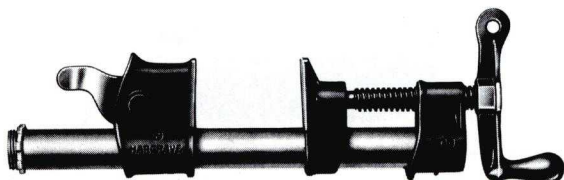
Item No.	Clamp No.	Opening	*Depth	Test Load	Quantity Per Box	Weight Per Box
22105	566	1-1/4"	1-1/4"	450 Lbs.	72	14-3/4 Lbs.
22115	566N	1-1/4"	1-1/4"	450 Lbs.	72	14-3/4 Lbs.
22106	568	2-1/2"	2-1/2"	550 Lbs.	24	17 Lbs.
22116	568N	2-1/2"	2-1/2"	550 Lbs.	24	17 Lbs.

\*Depth is from center of screw to frame.

FLC-2702



### CLAMP FIXTURE NO. 600 FITS 3/4" PIPE



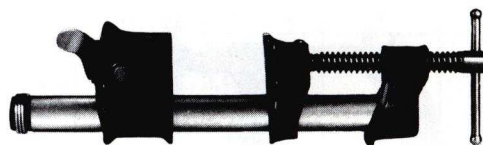
Easy to assemble on any length 3/4" pipe. All parts are high strength ductile and finished in attractive grey enamel, except the screw, which is steel, and the cam, which is hardened steel. Extra heavy black iron pipe is recommended for ordinary clamping, and double extra when greater pressure is required. Slide will not slip under pressure; will not stick when pressure is released. Frame tapped for standard pipe thread.

Item No.	Clamp No.	Clamping Slide	Surface Tip	Screw Diameter	Quantity Per Box	Weight Per Box
22201	600	1-3/4"	1-3/4"	5/8"	1 Set	2-1/2 Lbs.

A set consists of ONE CLAMP (frame, screw, handle, tip and slide) complete without pipe.

FLC-2702

### CLAMP FIXTURE NO. 620 FITS 1/2" PIPE



Easy to assemble on any length 1/2" pipe. All parts are high strength ductile and finished in attractive grey enamel, except the screw, which is steel, and the cam, which is hardened steel. Extra heavy black iron pipe is recommended for ordinary clamping, and double extra when greater pressure is required. Slide will not slip under pressure; will not stick when pressure is released. Frame tapped for standard pipe thread.

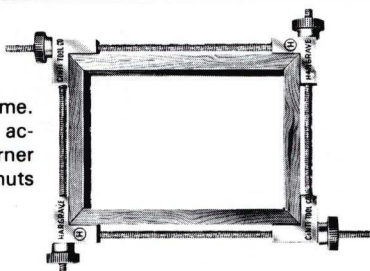
Item No.	Clamp No.	Clamping Slide	Surface Tip	Screw Diameter	Quantity Per Box	Weight Per Box
22202	620	1-1/2"	1-1/2"	1/2"	1 Set	1-1/2 Lbs.

A set consists of ONE CLAMP (frame, screw, handle, tip and slide) complete without pipe.

FLC-2702

### MITRE FRAME CLAMP NO. 780

Clamps all four corners at one time. Quickly adjusted. Absolutely accurate. Aluminum alloy corner blocks. Screws and adjusting nuts are steel.



### EXTENSION SCREWS NO. 780-E



Each set increases capacity of No. 780 clamp 12". Any number of extensions may be used. No. 780-E available only in sets of four.

Item No.	Clamp No.	Capacity	Diameter	Quantity Per Box	Weight Per Box
26401	780	2" - 14"	1/4"	1	1 Lb.
26402	780E	12" Each	1/4"	4	1 Lb.

FLC-2702

### SPRING CLAMPS

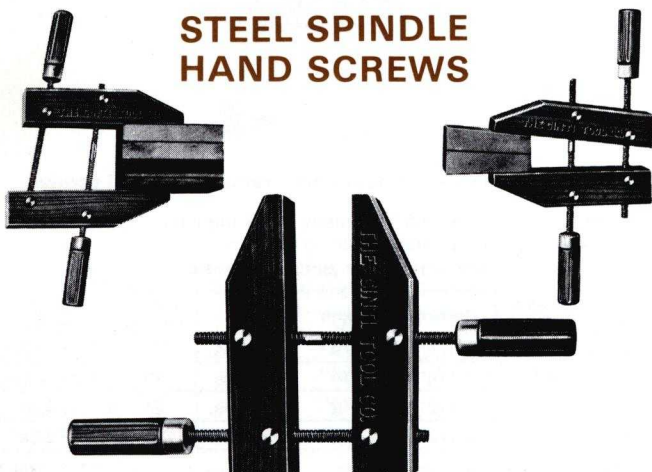
Heavy gage steel shaped to provide easy hand grip. Plated finish high grade tempered steel spring holds firmly without marring finish. Can be applied or removed instantly.



Item No.	Clamp No.	Maximum Opening	Length	Quantity Per Box	Weight Per Box	Clamping Pressure In Pounds	
						Opening	Regular Spring
20101	1	1"	4"	12	1-1/2 Lbs.	1"	27
20111	1	1"	4"	100	12 Lbs.	Half Open	18
20102	2	2"	6"	12	4-3/8 Lbs.	2"	40
20112	2	2"	6"	100	36-1/2 Lbs.	Half Open	22
20103	3	3"	9"	6	4-1/2 Lbs.	3"	80
20113	3	3"	9"	50	37-1/2 Lbs.		

FLC-2702

### STEEL SPINDLE HAND SCREWS



Hargrave Hand Screws are conventional in size and proportion; yet they have refinements not found in other hand screws.

**JAWS** — Specially selected Hard Maple, properly seasoned and oiled.  
**SPINDLES** — Cold-rolled thread insures longer wear with less frictional resistance.

**HANDLES** — The handles of Hargrave hand screws are enlarged and specially contoured, thus affording a better grip under all conditions.

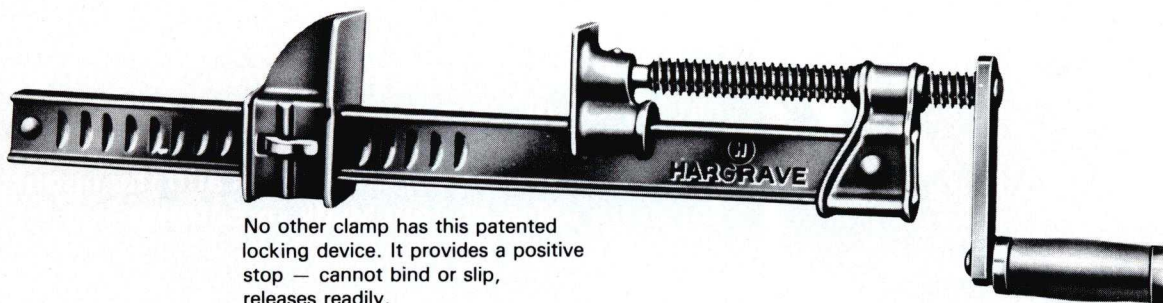
Item No.	Clamp No.	Jaw Length	Jaw Opening	Jaw Depth	Quantity Per Carton	Weight Per Carton
22402	706	6"	3"	3"	5	5 Lbs.
22403	708	8"	4-1/2"	4"	5	10 Lbs.
22404	710	10"	6"	5"	5	13 Lbs.
22405	712	12"	8-1/2"	6"	5	21 Lbs.
22406	714	14"	10"	7"	5	26 Lbs.
22407	716	16"	12"	8"	5	36 Lbs.

Conforms to Fed. Spec. GGG-C-408C, and Commercial Item Description A-A-547, type 4, Hand Screw Adjustable

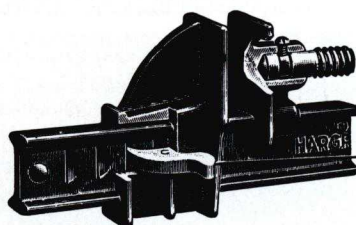
FLC-2702



## REGULAR DUTY "I" BAR CLAMPS NO. 640



No other clamp has this patented locking device. It provides a positive stop — cannot bind or slip, releases readily.



Hardened steel pawl.  
Quick action, with  
no slipping.

Our leading Bar Clamp since 1923. A rapid acting powerful clamp designed and constructed for hard everyday production work. Superiority of exclusive features has made it the favorite among users.

Bar is shaped to provide great strength for its weight. Smooth, wide flange will not mar working surfaces.

Patented quick action, no slip notches are 3/4" apart and formed in the web for greater bar strength.

High strength ductile slide cannot clip or bind. Easily released. Heavy tempered steel pawl engages notches, insures positive stop, years of trouble-free service.

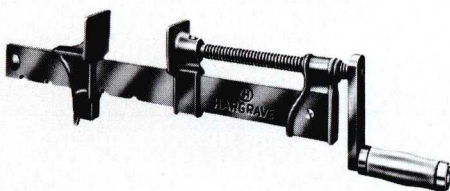
Clamping surface is 1-13/16" deep x 1-7/8" wide, screw diameter is 5/8" and bar dimension is 7/16" x 1-1/2" x 5/32".

Above clamps also available with cast iron "T" Handle.

Item No.	Opening	Weight Each
21801	2 Ft.	7 Lbs.
21802	2-1/2 Ft.	7-1/2 Lbs.
21803	3 Ft.	8 Lbs.
21804	4 Ft.	9-1/2 Lbs.
21805	5 Ft.	10-1/2 Lbs.
21806	6 Ft.	12 Lbs.
21807	7 Ft.	13 Lbs.
21808	8 Ft.	14-1/2 Lbs.

**FLC-2702**

## HEAVY DUTY BAR CLAMPS NO. 450



BAR—High carbon manganese steel, for greater strength.

FRAME—Best grade malleable or ductile iron.

SLIDE—Best grade malleable or ductile iron. Cannot slip or bind; easily released. Pawl for slide is tempered steel.

TIP—Best grade malleable or ductile iron. Has case-hardened thrust bearing for end of screw, insuring long, satisfactory service.

SCREW—Steel, with deep-cut "Acme" thread and extra long bearing, insures added life to the clamp.

HANDLE—Steel, with wood grip, reinforced with heavy steel ferrule and cap to prevent breaking.

CLAMPING SURFACE -  
2-1/4" deep x 2-1/4" wide.

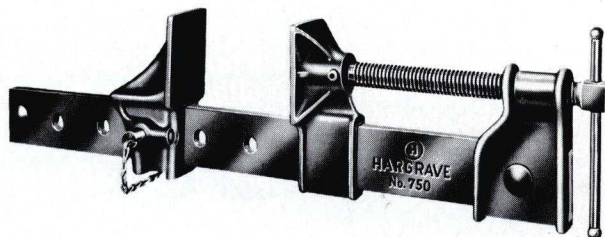
SCREW DIAMETER - 3/4".

BAR DIMENSION - 3/8" x 1-3/4".

Item No.	Opening	Weight Each
21602	4 Ft.	15 Lbs.
21604	6 Ft.	20 Lbs.
21606	8 Ft.	24 Lbs.

**FLC-2702**

## EXTRA HEAVY DUTY BAR CLAMP NO. 750 FOR HEAVY STEEL FABRICATION



The strongest and heaviest bar clamp made. Frame, tip and slide made of high grade malleable.

### NOTE WEIGHT BEFORE ORDERING

CLAMPING SURFACE -  
4" deep x 3" wide.

SCREW DIAMETER - 1".

\*BAR DIMENSION - 5/8" x 2-1/2".

\*Holes spaced 4" on center.

Item No.	Opening	Weight Each
21902	4 Ft.	38 Lbs.
21904	6 Ft.	48 Lbs.
21908	12 Ft.	76 Lbs.

**FLC-2702**





# CHISELS AND PUNCHES



The Hargrave line of chisels and punches covers a broad range of styles and sizes, so that you can satisfy all of your customers' needs from a single source. Kits and displays are included to provide convenience for your customers and the opportunity for extra sales at your walk-in counter.

## SAFETY RULES, REQUIREMENTS, AND LIMITATIONS OF CHISELS AND PUNCHES

1. Safety goggles or equivalent eye protection conforming to ANSI requirements must be worn by the user and all persons in the immediate area where any chisel or punch is being used to avoid possible eye injury from flying objects. It is suggested that a safety screen also be used to prevent injury to other workmen from flying particles.
2. Metal cutting chisels are special purpose tools designed and intended only for the cutting, shaping and removing of metal softer than the cutting edge of the chisel itself. Such soft materials may include cast iron, wrought iron, steel, bronze, copper, etc. An initial light cautious blow may be used to ascertain the relative hardness of the struck object with subsequent examination of the cutting edge. To avoid possible bodily injury, chisels must not be used to cut objects as hard as or harder than the chisel cutting edge.
3. Chisels, prick, pin, center and starter punches must not be used for prying or wedging, and no surface of the chisel or punch must be struck other than the struck face.
4. A hammer blow should always be struck squarely with the hammer face parallel with the struck face of the chisel or punch. Always avoid glancing blows and over and under strikes.
5. The striking face of the appropriate type and size hammer should have a diameter approximately 3/8 inch (9.5 mm) larger than the struck face of the chisel or punch.
6. Chisels and punches must be inspected at regular intervals and their use discontinued at the first sign of excessive wear, chipping or cracking of the point end, cutting edge, or the struck face, or from bending.
7. Never use a chisel or punch with a dull, chipped or deformed cutting edge or point, or one with a mushroomed struck face.
8. Dulling of the cutting edge or point end may occur from tool usage, and it should be resharpener or redressed to the original contour by the use of a whetstone or file. It is understood that industrial users with adequate facilities and properly trained personnel may choose to redress or resharpen these tools by other means without altering the metallurgical characteristics of the tool.
9. At the first indication of mushrooming of the chisel or punch struck face, it must be redressed to original contour by the use of a hand file. It is understood that industrial users with adequate facilities and properly trained personnel may choose to redress or resharpen these tools by other means without altering the metallurgical characteristics of the tool.
10. Except as noted in item 8 or 9, no area, section, or portion of the chisel or punch must be ground, welded, re-heat treated, or otherwise altered from the original condition as furnished by the manufacturer.
11. The point end diameter of the starter punch or pin punch must approximate the size of the work piece.
12. Pin punches must not be used as a starting (solid) punch.
13. Drift or lining punches are special purpose tools intended for aligning and sizing holes and must not be used for driving metal or other hard objects.
14. Warren Tool Corporation cannot be responsible for injury or damage caused by tools improperly used, or from tools which have been abused or badly worn.

TOLL FREE-1-800-543-3224

ALWAYS WEAR SAFETY GOGGLES WHEN USING HAND TOOLS



## HARGRAVE CHISELS

Hargrave Chisels are forged from special analysis alloy steel. Accurately controlled heat treatment of the blade insures proper hardness and toughness for longer tool life. Generous chamfer. Design offers excellent proportion and balance. Finished with blue baked-on enamel body and polished blade.

### COLD CHISELS - PROPER USES

Cold chisels have a cutting edge at one end for cutting, shaping and removing metal softer than the cutting edge itself such as cast iron, wrought iron, steel, bronze, copper, etc. and a struck face on the opposite end.

### ABUSE/MISUSE

NEVER use cold chisels for cutting or splitting stone or concrete. NEVER use a dull chisel or one with a mushroomed head.

**ALWAYS WEAR SAFETY GOGGLES  
WHEN USING HAND TOOLS.**

### COLD CHISELS NO. 200



Used only for cutting, shaping and removing metal softer than the cutting edge itself such as cast iron, wrought iron, steel, bronze, copper, etc.

Item No.	Cutting Edge	Stock Size	Length	Quantity Per Box	Weight Per Box
22501	1/4"	1/4"	5"	12	1 Lb.
22502	5/16"	1/4"	5"	12	1 Lb.
22503	3/8"	5/16"	5-1/2"	12	1-1/2 Lbs.
22504	1/2"	7/16"	6"	12	3 Lbs.
22505	5/8"	1/2"	6-1/2"	6	2-1/4 Lbs.
22506	3/4"	5/8"	7"	6	3-1/2 Lbs.
22507	7/8"	3/4"	7-1/2"	6	3-1/2 Lbs.
22508	1"	7/8"	8"	6	7-3/4 Lbs.

FLC-2494

### EXTRA LONG COLD CHISELS NO. 210



Used in the same manner as No. 200 where extra length is required.

Item No.	Cutting Edge	Stock Size	Length	Quantity Per Box	Weight Per Box
22602	1/2"	7/16"	12"	6	3 Lbs.
22603	5/8"	1/2"	12"	6	4-1/4 Lbs.
22604	3/4"	5/8"	12"	6	5-1/4 Lbs.
22605	7/8"	3/4"	12"	6	9 Lbs.
22606	1"	3/4"	12"	6	9 Lbs.
22607	3/4"	5/8"	18"	3	5 Lbs.
22608	1"	3/4"	18"	3	7 Lbs.

FLC-2494

### RIVET BUSTER NO. 220



Used in cutting heads from rivets and bolts of all sizes. Beveled to cut with a shearing action.

Item No.	Cutting Edge	Stock Size	Length	Quantity Per Box	Weight Per Box
22622	3/4"	5/8"	6-1/4"	6	3-1/2 Lbs.

FLC-2494

### CAPE CHISELS NO. 230



Used for cutting in locations such as grooves, keyways, and slots.

Item No.	Cutting Edge	Stock Size	Length	Quantity Per Box	Weight Per Box
22701	1/8"	5/16"	5 1/2"	12	1-1/4 Lbs.
22702	3/16"	3/8"	6"	12	2 Lbs.
22703	1/4"	1/2"	6-1/4"	12	3-1/2 Lbs.
22704	5/16"	1/2"	6-1/4"	12	3-3/4 Lbs.
22705	3/8"	5/8"	7"	6	3 Lbs.
22706	1/2"	3/4"	8"	6	5 Lbs.

FLC-2494

### HALF-ROUND CHISELS NO. 240



Used for cutting round or semi-circular grooves and for chipping inside corners which are "filleted" or rounded.

Item No.	Cutting Edge	Stock Size	Length	Quantity Per Box	Weight Per Box
22801	1/8"	5/16"	5-1/2"	12	1-1/2 Lbs.
22802	3/16"	3/8"	6"	12	2 Lbs.
22803	1/4"	1/2"	6-1/4"	12	3-1/2 Lbs.
22804	5/16"	1/2"	6-1/4"	12	3-3/4 Lbs.
22805	3/8"	5/8"	7"	6	3 Lbs.
22806	1/2"	3/4"	8"	6	5 Lbs.

FLC-2494

### DIAMOND POINT CHISELS NO. 250



Used for cutting V-grooves, inside corners, and square holes.

Item No.	Cutting Edge	Stock Size	Length	Quantity Per Box	Weight Per Box
22901	1/8"	5/16"	5"	12	1-1/4 Lbs.
22902	3/16"	3/8"	5-1/2"	12	2-1/4 Lbs.
22903	1/4"	3/8"	5-3/4"	12	2-1/4 Lbs.
22904	5/16"	1/2"	6"	12	3-3/4 Lbs.
22905	3/8"	5/8"	7"	6	3-1/2 Lbs.
22906	1/2"	3/4"	7"	6	4-3/4 Lbs.

FLC-2494



### ALL-STEEL WOOD CHISELS NO. 260



Due to quality and temper of steel, this chisel will not break or take a set when used as intended. Handle will stand use of hammer without breaking — much more durable than wood-handle chisel. Used as a heavy duty wood-cutting tool.

Item No.	Cutting Edge	Stock Size	Length	Quantity Per Box	Weight Per Box
23000	1/4"	5/16"	7"	12	1-3/4 Lbs.
23001	1/2"	3/8"	7-1/2"	12	3 Lbs.
23002	3/4"	1/2"	8-1/4"	6	2-3/4 Lbs.
23003	1"	5/8"	8-3/4"	6	4-3/4 Lbs.

FLC-2492

### PLUGGING CHISEL NO. 270



Used for cleaning mortar from brick joints.

Item No.	Cutting Edge	Stock Size	Length	Quantity Per Box	Weight Per Box
23802	1/4"	5/8"	10"	6	4-1/2 Lbs.

FLC-2493

### RECTANGULAR BRICK CHISEL NO. 280



Used for trimming brick.

Item No.	Cutting Edge	Stock Size	Length	Quantity Per Box	Weight Per Box
23501	1-1/8"	3/8"x7/8"	12"	6	6-1/2 Lbs.

FLC-2494

### FLOOR CHISELS NO. 290



Due to design, quality and temper of steel, this chisel will not break or take a set when used as intended. The thin blade enables carpenter, plumber or electrician to cut tongues off floor boards and lift them, without marring the surface. Blade tempered to cut nails.

Item No.	Cutting Edge	Stock Size	Length	Quantity Per Box	Weight Per Box
23601	2-1/2"	5/8"	11"	6	7 Lbs.
23602	3"	3/4"	12"	6	8 Lbs.

FLC-2492



### PUNCHES

Hargrave Punches are forged from special analysis alloy steel. Precisely controlled heat treatment of the point insures proper hardness and toughness for longer tool life. Finished with blue baked-on enamel body and polished taper.

**ALWAYS WEAR SAFETY GOGGLES  
WHEN USING HAND TOOLS.**

### CENTER PUNCHES NO. 300



Used for marking work by indentation for starting drills in metal and other materials.

Item No.	Point Size	Stock Size	Length	Quantity Per Box	Weight Per Box
24101	5/64"	1/4"	3-1/2"	12	1/2 Lb.
24102	1/8"	5/16"	4-1/2"	12	1 Lb.
24103	5/32"	3/8"	5"	12	1-3/4 Lbs.
24104	1/4"	1/2"	6"	12	3-3/4 Lbs.
24105	3/8"	5/8"	6-1/4"	6	3 Lbs.

FLC-2495

### PRICK PUNCHES NO. 310



Used for marking by small indentation along drawn or scribed lines in layout work and piercing holes in light gauge metal and other materials.

Item No.	Stock Size	Length	Quantity Per Box	Weight Per Box
24801	1/4"	3"	12	1/2 Lb.
24802	3/8"	5"	12	1-3/4 Lbs.
24803	1/2"	6"	12	3-1/4 Lbs.

FLC-2495

### RIVET SETTING PUNCH NO. 320



Designed with a cupped end for heading or peening section rivets.

Item No.	Point Size	Stock Size	Length	Quantity Per Box	Weight Per Box
24832	3/8"	5/8"	5"	6	2-1/2 Lbs.

FLC-2495



## SOLID OR STARTING PUNCHES NO. 330



Used to loosen such things as frozen pins and keys.

Item No.	Point Size	Stock Size	Length	Taper	Quantity Per Box	Weight Per Box
24001	1/16"	3/8"	5"	1-3/4"	12	2 Lbs.
24002	1/8"	3/8"	5"	1-3/4"	12	2 Lbs.
24003	5/32"	1/2"	6"	2-1/4"	12	3-1/2 Lbs.
24004	3/16"	1/2"	6"	2-1/4"	12	3-1/2 Lbs.
24005	1/4"	1/2"	6"	2-1/8"	12	3-3/4 Lbs.
24006	5/16"	1/2"	6"	2"	12	3-3/4 Lbs.
24007	3/8"	5/8"	6-1/2"	2-1/4"	6	2-7/8 Lbs.
24008	1/2"	5/8"	7"	2-1/2"	6	3-1/2 Lbs.

FLC-2495

## LINING UP/DRIFT PUNCHES NO. 340



Used for aligning and sizing holes in light gauge metal and other materials.

Item No.	Point Size	Stock Size	Length	Taper	Quantity Per Box	Weight Per Box
24351	1/8"	5/16"	8"	3-1/2"	6	1 Lb.
24352	5/32"	3/8"	9"	4-1/4"	6	1-1/2 Lbs.
24353	3/16"	1/2"	10"	6-1/2"	6	2-3/4 Lbs.
24354	1/4"	5/8"	12"	7-1/2"	6	5-1/2 Lbs.
24355	5/16"	3/4"	12"	7-1/2"	6	6-3/8 Lbs.
24356	3/8"	3/4"	15"	8"	6	5 Lbs.
24357	1/2"	7/8"	18"	9-1/2"	6	7-1/4 Lbs.

FLC-2495

## PIN PUNCHES NO. 350



Used in driving and removing such things as pins and keys after initial movement by a starting punch.

Item No.	Point Size	Stock Size	Length	Pin Length	Quantity Per Box	Weight Per Box
24501	1/16"	1/4"	4"	3/4"	12	1/2 Lb.
24502	3/32"	5/16"	4-1/2"	1"	12	3/4 Lb.
24503	1/8"	5/16"	4-3/4"	1"	12	1 Lb.
24504	5/32"	5/16"	5"	1"	12	1 Lb.
24505	3/16"	3/8"	5-1/4"	1-1/8"	12	1-1/2 Lbs.
24506	7/32"	3/8"	5-1/2"	1-1/4"	12	1-3/4 Lbs.
24507	1/4"	3/8"	5-3/4"	1-1/4"	12	3 Lbs.
24508	5/16"	1/2"	6"	1-3/8"	12	3-1/2 Lbs.
24509	3/8"	1/2"	6-1/2"	1-1/2"	12	4 Lbs.

## EXTRA LONG PIN PUNCHES NO. 360

Item No.	Point Size	Stock Size	Length	Pin Length	Quantity Per Box	Weight Per Box
24701	1/8"	3/8"	9"	3-1/2"	12	2-1/2 Lbs.
24702	3/16"	1/2"	9"	3-1/2"	12	4 Lbs.
24703	1/4"	1/2"	9"	3-3/4"	12	4-1/4 Lbs.
24704	5/16"	1/2"	9"	4"	12	4-1/2 Lbs.
24705	3/8"	1/2"	9"	4-1/2"	12	5 Lbs.

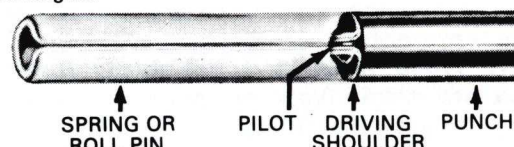
FLC-2495

## ROLL PIN PUNCHES NO. 370



PAT NO. 3,099,876

For simplifying the removal of spring or roll pins. Each Hargrave Roll Pin Punch has a pilot point that fits into the hollow center of the pin, holding the driving shoulder of the punch in perfect contact position. Spring or roll pins are quickly and easily removed without scoring wall of hole or damaging pins. Hargrave Roll Pin Punches are manufactured to +.000-.010 tolerance. Twelve sizes match standard pin diameters and maximum lengths.



Item No.	Point Size	Roll Pin Size	Overall Length	Pin Length	Quantity Per Box	Weight Per Box
25101	1/16"	1	2-3/4"	1"	12	1/4 Lb.
25102	5/64"	2	3-1/4"	1-1/2"	12	1/4 Lb.
25103	3/32"	3	3-1/2"	1-1/2"	12	1/4 Lb.
25104	1/8"	4	4"	2"	12	1/2 Lb.
25105	5/32"	5	4-1/2"	2-1/2"	12	1/2 Lb.
25106	3/16"	6	4-1/2"	2-1/2"	6	1/2 Lb.
25107	7/32"	7	5"	3"	6	1/2 Lb.
25108	1/4"	8	5-1/2"	3-1/2"	6	3/4 Lb.
25109	5/16"	9	6"	4"	6	1 Lb.
25110	3/8"	10	6"	4"	6	1-1/4 Lbs.
25111	7/16"	11	6"	4"	6	1-3/4 Lbs.
25112	1/2"	12	6"	4"	6	2-1/4 Lbs.

FLC-2495

## HAND STAR DRILLS NO. 400

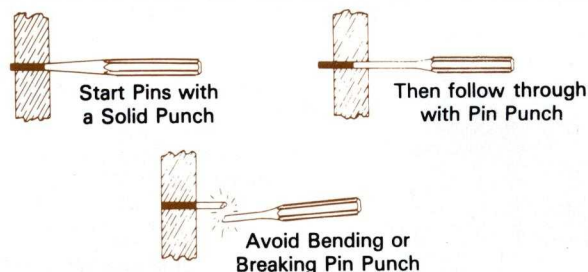


Forged from special analysis alloy steel. Properly designed and tempered to insure long, satisfactory service. Used for making holes in masonry walls such as cinder or cement block.

Item No.	Cuts	Hex Stock Size	Overall Length	Quantity Per Box	Weight Per Box
26501	1/4"	1/4"	12"	12	2 Lbs.
26503	3/8"	5/16"	12"	12	3-1/4 Lbs.
26504	1/2"	3/8"	12"	12	4-3/4 Lbs.
26505	5/8"	7/16"	12"	12	6-1/2 Lbs.
26506	3/4"	1/2"	12"	6	4-1/2 Lbs.
26507	7/8"	5/8"	12"	6	6-1/2 Lbs.
26508	1"	5/8"	12"	6	8-1/2 Lbs.

FLC-2554

## THE PROPER USE OF SOLID AND PIN PUNCHES







## KITS AND DISPLAYS

Hargrave kits are packaged in durable plastic roll-up pouches with strong tape ties, and feature grommets so they may be easily hung in the store or at the work place. The strong plastic pouches keep tools protected from damaging moisture, spills, and dirt while keeping tools easily accessible. Displays are attractively designed to assure high turn-over in a retail setting.

**ALWAYS WEAR SAFETY GOGGLES  
WHEN USING HAND TOOLS.**

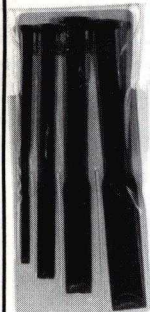
### 6 PIECE COLD CHISEL KIT NO. 27500



Cold Chisels: 22501 - 1/4"  
22502 - 5/16"  
22503 - 3/8"  
22504 - 1/2"  
22505 - 5/8"  
22506 - 3/4"

Shipping Wt. 1-3/4 Lbs.

### 4 PIECE ALL-STEEL WOOD CHISEL KIT NO. 27505



All Steel Wood Chisels: 23000 - 1/4"  
23001 - 1/2"  
23002 - 3/4"  
23003 - 1"

Shipping Wt. 2 Lbs.

### 5 PIECE PUNCH KIT NO. 27510



Pin Punches: 24502 - 3/32"  
24503 - 1/8"  
24504 - 5/32"  
24505 - 3/16"  
Solid Punch: 24003 - 5/32"

Shipping Wt. 1 Lb.

### 6 PIECE PUNCH KIT NO. 27512



Center Punch: 24103 - 5/32"  
Pin Punches: 24505 - 3/16"  
24508 - 5/16"  
Prick Punch: 24802 - 3/8"  
Solid Punches: 24002 - 1/8"  
24005 - 1/4"

Shipping Wt. 1-1/2 Lbs.

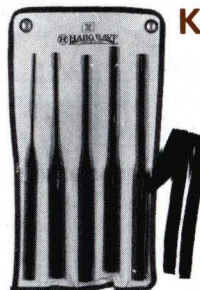
### 10 PIECE PUNCH KIT NO. 27514



Center Punch: 24102 - 1/8"  
Pin Punches: 24502 - 3/32"  
24503 - 1/8"  
24504 - 5/32"  
24505 - 3/16"  
Pin Punches: 24506 - 7/32"  
24507 - 1/4"  
24508 - 5/16"  
24509 - 3/8"  
Solid Punch: 24002 - 1/8"

Shipping Wt. 2-3/4 Lbs.

### 5 PIECE EXTRA LONG PIN PUNCH KIT NO. 27516



Extra Long Pin Punches: 24701 - 1/8"  
24702 - 3/16"  
24703 - 1/4"  
24704 - 5/16"  
24705 - 3/8"

Shipping Wt. 1-3/4 Lbs.

### 4 PIECE LINE-UP PUNCH KIT NO. 27518



Line-Up Punches: 24351 - 1/8"  
24352 - 5/32"  
24353 - 3/16"  
24354 - 1/4"

Shipping Wt. 2 Lbs.

### 6 PIECE ROLL PIN PUNCH KIT NO. 27520



Roll Pin Punches: 25104 - 1/8"  
25105 - 5/32"  
25106 - 3/16"  
25107 - 7/32"  
25108 - 1/4"  
25109 - 5/16"

Shipping Wt. 3/4 Lb.

### 12 PIECE ROLL PIN PUNCH KIT NO. 27522



Roll Pin Punches: 25101 - 1/16"  
25102 - 5/64"  
25103 - 3/32"  
25104 - 1/8"  
25105 - 5/32"  
25106 - 3/16"  
25107 - 7/32"  
25108 - 1/4"  
25109 - 5/16"  
25110 - 3/8"  
25111 - 7/16"  
25112 - 1/2"

Shipping Wt. 1-3/4 Lbs.



### 4 PIECE PUNCH & CHISEL KIT NO. 27530



#### Chisels:

Cold Chisel: 22505 - 5/8"

#### Punches:

Center Punch: 24103 - 5/32"

Pin Punch: 24504 - 5/32"

Solid Punch: 24004 - 3/16"

Shipping Wt. 3/4 Lb.

### 6 PIECE PUNCH & CHISEL KIT NO. 27532



#### Chisels:

Cold Chisels: 22504 - 1/2"

22506 - 3/4"

#### Punches:

Center Punch: 24104 - 1/4"

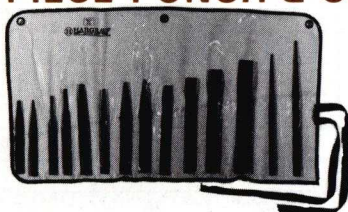
Pin Punches: 24503 - 1/8"

24508 - 5/16"

Solid Punch: 24004 - 3/16"

Shipping Wt. 2 Lbs.

### 14 PIECE PUNCH & CHISEL KIT NO. 27534



#### Chisels:

Cape Chisel: 22703 - 1/4"

Cold Chisels: 22504 - 1/2"

22505 - 5/8"

22506 - 3/4"

22507 - 7/8"

Diamond Point Chisel: 22903 - 1/4"

Half Rd. Nose Chisel: 22803 - 1/4"

#### Punches:

Center Punch: 24103 - 5/32"

Line-Up Punches: 24351 - 1/8"

24352 - 5/32"

Pin Punches: 24505 - 3/16"

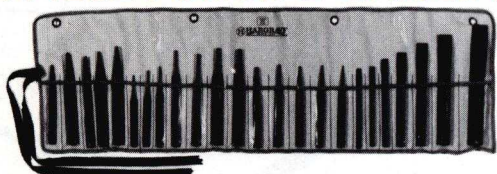
24501 - 1/16"

Solid Punches: 24006 - 5/16"

24002 - 1/8"

Shipping Wt. 5-1/2 Lbs.

### 24 PIECE PUNCH & CHISEL KIT



#### NO. 27536

#### Chisels:

Cape Chisel: 22703 - 1/4"

Cold Chisels: 22501 - 1/4"

22502 - 5/16"

22503 - 3/8"

22504 - 1/2"

22505 - 5/8"

22506 - 3/4"

22507 - 7/8"

Diamond Point Chisel: 22903 - 1/4"

Half Rd. Nose Chisel: 22802 - 3/16"

#### Punches:

Center Punches: 24103 - 5/32"

24104 - 1/4"

Pin Punches: 24502 - 3/32"

24503 - 1/8"

24504 - 5/32"

24505 - 3/16"

24507 - 1/4"

24508 - 5/16"

Solid Punches: 24001 - 1/16"

24002 - 1/8"

24003 - 5/32"

24004 - 3/16"

24005 - 1/4"

24006 - 5/16"

Shipping Wt. 7 Lbs.

### RIVET REPAIR KIT NO. 27535



Rivet Buster: 22622

Pin Punch: 24505 - 3/16"

Rivet Set: 24832

Shipping Wt. 1-1/4 Lbs.

### PEG BOARD PUNCH & CHISEL DISPLAY NO. 27550



2 each:

Cape Chisels:  
22703 - 1/4"

Cold Chisels:

22501 - 1/4"

22503 - 3/8"

22504 - 1/2"

22505 - 5/8"

22506 - 3/4"

22507 - 7/8"

22508 - 1"

Extra Long  
Cold Chisels:

22602 - 1/2"

22604 - 3/4"

Diamond Point

Chisels:

22903 - 1/4"

Center Punches:

24103 - 5/32"

24104 - 1/4"

Line-Up Punches:

24352 - 5/32"

24353 - 3/16"

24354 - 1/4"

24355 - 5/16"

Prick Punches:

24802 - 3/8"

Pin Punches:

24502 - 3/32"

24503 - 1/8"

24504 - 5/32"

24505 - 3/16"

24507 - 1/4"

24508 - 5/16"

24509 - 3/8"

Solid Punches:

24002 - 1/8"

24003 - 5/32"

24004 - 3/16"

24005 - 1/4"

24006 - 5/16"

1 each:

6 Pc. Cold Chisel Kit 27500

6 Pc. Punch & Chisel Kit 27532

14 Pc. Punch & Chisel Kit 27534

5 Pc. Punch Kit 27510

6 Pc. Punch Kit 27512

4 Pc. Line-Up Punch Kit 27518

Shipping Wt. 53 Lbs.

### COUNTER TOP DISPLAY NO. 27551



4 each: Cold Chisels: 22504 - 1/2"

22505 - 5/8"

22506 - 3/4"

22607 - 3/4"

Center Punch: 24104 - 1/4"

Line-Up Punches: 24352 - 5/32"

24354 - 1/4"

Pin Punches: 24504 - 5/32"

24503 - 1/8"

24505 - 3/16"

24507 - 1/4"

Solid Punch: 24004 - 3/16"

Shipping Wt. 24 Lbs.



# Warren BARS



This newly-expanded line of top-quality bars enables you to respond to almost any request from your customers. In addition to the products shown here, call our Customer Service department for any special designs which you may need.

## WEDGE POINT CROWBARS NO. 40



Used to pry and move heavy objects. High carbon steel. Smooth taper, roll forged. AREA plan 5-62.

Item No.	Net Weight	Stock	Length	Quantity
02001	10 Lbs.	1"	48"	1
02002	12 Lbs.	1-1/8"	51"	1
02005	18 Lbs.	1-1/4"	60"	1
02006	22 Lbs.	1-3/8"	64"	1
02007	26 Lbs.	1-1/2"	66"	1

FLC-2491

## PINCH POINT CROWBARS NO. 41



Used to pry and move heavy objects. High carbon steel. Smooth taper, roll forged. AREA plan 5-62.

Item No.	Net Weight	Stock	Length	Quantity
02101	6 Lbs.	7/8"	36"	1
02102	10 Lbs.	1"	48"	1
02103	12 Lbs.	1-1/8"	51"	1
02106	18 Lbs.	1-1/4"	60"	1
02107	22 Lbs.	1-3/8"	64"	1
02108	26 Lbs.	1-1/2"	66"	1

FLC-2491

## DIAMOND POINT LINING BARS NO. 42



Used to pry and move heavy objects. High carbon steel. Smooth taper, roll forged. AREA plan 5-62.

Item No.	Net Weight	Stock	Length	Quantity
02201	18 Lbs.	1-1/4"	60"	1
02202	22 Lbs.	1-3/8"	64"	1
02203	26 Lbs.	1-1/2"	66"	1

FLC-2491

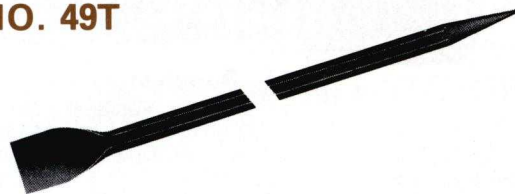
## TAMPER TOP POST HOLE DIGGER NO. 49



Used for digging post holes and tamping earth. One-piece high carbon steel.

Item No.	Net Weight	Stock	Length	Quantity
02701	17 Lbs.	1"	69"	1

## HEXAGON TELEGRAPH DIGGING BARS NO. 49T



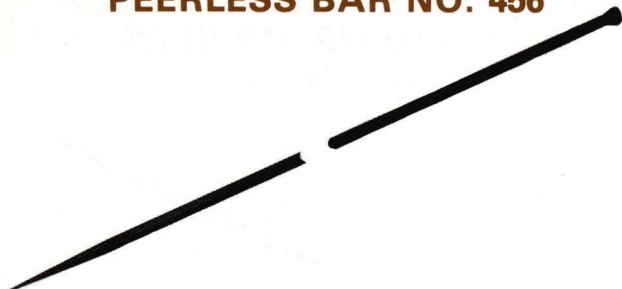
Used to dig holes for insertion of posts and to line up long posts once they are in and being tamped into place.

Item No.	Net Weight	Stock	Length	Quantity
02716	17 Lbs.	1"	72"	1
02717	28 Lbs.	1-1/8"	96"	1

ALWAYS WEAR SAFETY GOGGLES WHEN USING HAND TOOLS  
TOLL FREE-1-800-543-3224



## PEERLESS BAR NO. 456



Used for prying in tight areas such as among cobblestones or when working on sewer pipes.

Item No.	Net Weight	Stock	Length	Quantity
02705	14 Lbs.	1"	60"	1

FLC-2491

## WAREHOUSE LOADING BAR NO. 454L



Used for moving pallets and loads in warehouses or on trucks.

Item No.	Net Weight	Stock	Length	Quantity
02506	18 Lbs.	1-1/4"	60"	1

FLC-2491

## SAN ANGELO BARS NO. 455



Used for digging in soft soils. High carbon hex steel.

Item No.	Net Weight	Stock	Length	Chisel Width	Quantity
02606	14 Lbs.	1"	60"	1-3/4"	1
02609	17 Lbs.	1"	72"	1-3/4"	1
02610	20 Lbs.	1"	84"	1-3/4"	1

FLC-2491

## SLATE BARS NO. 453



Used by road crews and railroad gangs for lifting or breaking rocks. High carbon hex steel.

Item No.	Net Weight	Stock	Length	Chisel Width	Quantity
02602	11 Lbs.	1"	48"	1-1/8"	1
02603	12 Lbs.	1"	54"	1-1/8"	1
02604	14 Lbs.	1"	60"	1-1/8"	1

FLC-2491

## CONNECTING BAR NO. 457

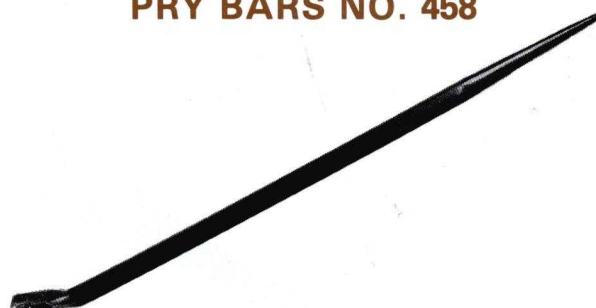


Used to line up bolt holes in the erection of steel. High carbon steel.

Item No.	Net Weight	Stock	Length	Quantity Per Bundle	Weight Per Bundle
02706	5 Lbs.	7/8"	30"	10	50 Lbs.

FLC-2491

## PRY BARS NO. 458



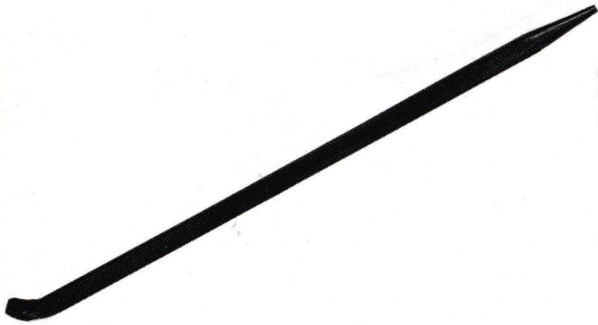
Used for lining up holes and for prying work, such as tightening generators in auto repair work, etc. Made from tapered high carbon, hexagonal steel. Hot forged and heat treated. Tapered end makes it ideal for use in hole alignment.

Item No.	Stock	Length	Quantity Per Bundle	Weight Per Bundle
02707	1/2"	13"	10	6 Lbs.
02708	5/8"	20"	10	14 Lbs.
02709	3/4"	24"	10	25 Lbs.

FLC-2491



## OFFSET PINCH BARS NO. 459

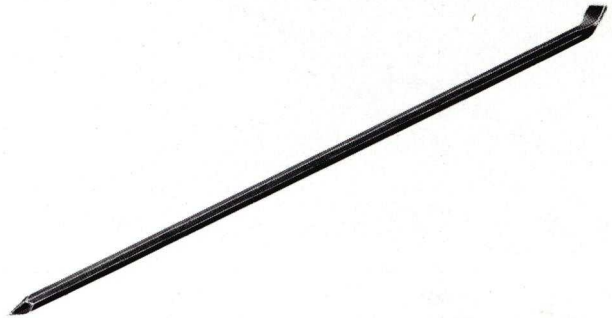


High carbon steel. Meets GSA specifications.

Item No.	Stock	Length	Quantity Per Bundle	Weight Per Bundle
02710	3/4"	26"	5	17 Lbs.
02711	7/8"	30"	5	29 Lbs.
02712	1"	36"	5	41 Lbs.

FLC-2491

## HEXAGON-DIAMOND POINT TRUCKMANS' OR BENT CHISEL SLATE BAR NO. 453B



Used to move material on pallets and to adjust loads, or for lifting or breaking rocks. High carbon steel.

Item No.	Net Weight	Stock	Length	Chisel Width	Quantity Per Bundle	Weight Per Bundle
02605	14 Lbs.	1"	60"	2"	4	56 Lbs.

FLC-2491

## HEXAGON-DIAMOND POINT CONSTRUCTION OR STRAIGHT CHISEL SLATE BAR NO. 453S



Used for prying or moving materials on construction sites, or for lifting or breaking rocks. High carbon steel.

Item No.	Net Weight	Stock	Length	Chisel Width	Quantity Per Bundle	Weight Per Bundle
02608	14 Lbs.	1"	60"	2"	4	56 Lbs.

FLC-2491

## WAREHOUSE BAR NO. 454

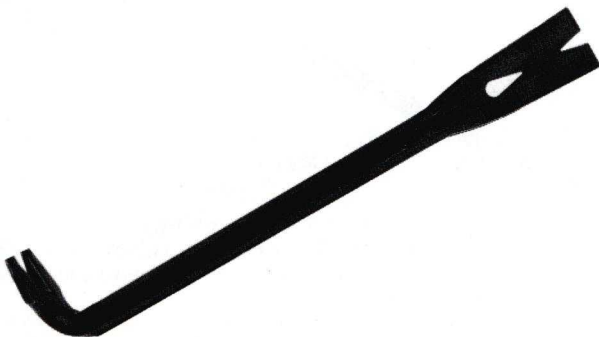


Used for opening crates or for removing nails on pallets and skids nailed down on trucks and railroad cars.

Item No.	Net Weight	Stock	Length	Quantity Per Bundle	Weight Per Bundle
02505	11 Lbs.	1"	48"	4	44 Lbs.

FLC-2491

## OFFSET RIPPING CHISEL NO. 461

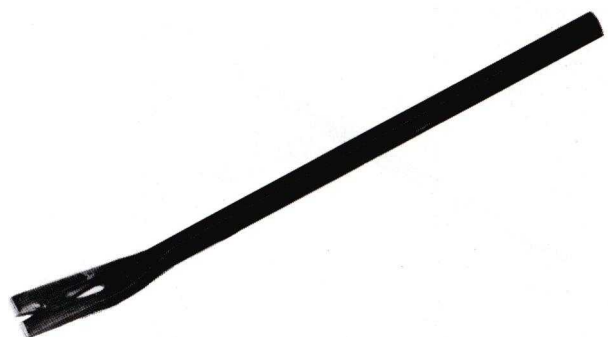


Heat treated.

Item No.	Net Weight	Stock	Length	Quantity Per Box	Weight Per Box
02718	1 Lb.	3/4"	17"	5	10 Lbs.

FLC-2491

## STRAIGHT RIPPING CHISEL NO. 462



Heat treated.

Item No.	Net Weight	Stock	Length	Quantity Per Box	Weight Per Box
02719	2 Lbs.	3/4"	18"	5	10 Lbs.

FLC-2491



## CARPENTERS' WRECKING BARS NO. 45



High carbon hex steel.

Item No.	Stock	Length	Quantity Per Box	Weight Per Box
02801	1/2"	12"	10	7 Lbs.
02802	5/8"	18"	10	18 Lbs.
02803	3/4"	24"	10	33 Lbs.
02804	3/4"	30"	10	42 Lbs.
02805	3/4"	36"	10	50 Lbs.
02806	7/8"	36"	1	8 Lbs.
02807	1"	48"	1	13 Lbs.

Order by stock size and length.

FLC-2491

## HIGH QUALITY WRECKING BARS NO. 45H.Q.



High carbon hex steel. Heat treated.  
Both chisel and claw ends polished.

Item No.	Stock	Length	Quantity Per Box	Weight Per Box
02902	3/4"	24"	10	35 Lbs.
02903	3/4"	30"	10	46 Lbs.
02904	3/4"	36"	10	60 Lbs.
02905	7/8"	36"	5	38 Lbs.

Order by stock size and length.

FLC-2491

## UTILITY BAR NO. 460



Item No.	Stock	Length	Quantity Per Box	Weight Per Box
02713	1/4" x 1-3/8"	14"	5	7-1/2 Lbs.

FLC-2491

## DOUBLE CLAW CARPENTERS' BARS NO. 46



Item No.	Stock	Length	Quantity Per Bundle	Weight Per Bundle
02714	3/4"	24"	12	40 Lbs.
02715	3/4"	30"	12	50 Lbs.

FLC-2491

## STRIPPING BARS WITH CLAW NO. 450



Used to strip concrete forms after the concrete has set. High carbon hex steel.

Item No.	Net Weight	Stock	Length	Quantity
02501	8 Lbs.	7/8"	42"	1
02502	12 Lbs.	1"	48"	1

FLC-2491

## STRIPPING BARS WITHOUT CLAW NO. 451



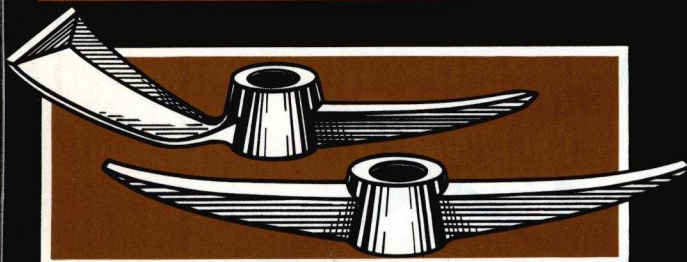
Used to strip concrete forms after the concrete has set. High carbon hex steel.

Item No.	Net Weight	Stock	Length	Quantity
02503	8 Lbs.	7/8"	42"	1
02504	12 Lbs.	1"	48"	1

FLC-2491



# Warren EARTHMOVING TOOLS



Warren earthmoving tools are specially designed for contractors, landscapers, and other users demanding top quality products.

## CLAY PICKS NO. 5

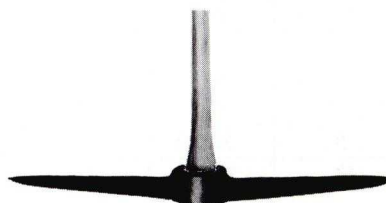


High carbon steel. Heat treated. No. 6 eye. Chisel and Point. Slip-on type handle available.

Item No.	Net Weight	Eye No.	Tool Length	Quantity Per Box	Weight Per Box
00101	5 Lbs.	6	21"	5	26 Lbs.
00102	6 Lbs.	6	23"	5	31 Lbs.
00103	7 Lbs.	6	25"	5	36 Lbs.
00104	8 Lbs.	6	26"	5	41 Lbs.

FLC-1310

## DRIFT PICKS NO. 6



High carbon steel. Heat treated. No. 10 eye. Fitted handle.

Item No.	Net Weight	Eye No.	Tool Length	Handle Length	Quantity Per Box	Weight Per Box
00202	4 Lbs.	10	21"	36"	5	31 Lbs.
00204	5 Lbs.	10	25"	36"	5	36 Lbs.

FLC-1310

## DOUBLE POINT PICK NO. 5E

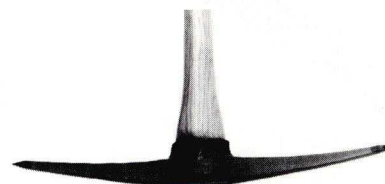


High carbon steel. Perfect anchor curve. Slip on type handle available.

Item No.	Net Weight	Eye No.	Tool Length	Quantity Per Box	Weight Per Box
00106	7 Lbs.	6	25"	5	50 Lbs.

FLC-1310

## COAL PICK NO. 18



High carbon steel. No. 10 eye. Fitted handle.

Item No.	Net Weight	Eye No.	Tool Length	Handle Length	Quantity Per Box	Weight Per Box
00210	3 Lbs.	10	17"	36"	10	49 Lbs.

FLC-1310

## CUTTER MATTOCKS NO. 22



High carbon steel. Heat treated. Self cleaning blade taper. Slip-on type handle available.

Item No.	Net Weight	Eye No.	Tool Length	Blade Size	Point Length	Quantity Per Box	Weight Per Box
00306	3 Lbs.	7	13-1/4"	3"x6-1/2"	2-1/4"x4"	5	16 Lbs.
00307	5 Lbs.	6	15-3/4"	3-1/2"x8"	2-1/2"x4-3/4"	5	26 Lbs.

FLC-1310

## PICK MATTOCK NO. 20



High carbon steel. Heat treated. Polished bevel. No. 6 eye. Slip-on type handle available.

Item No.	Net Weight	Eye No.	Tool Length	Blade Size	Point Length	Quantity Per Box	Weight Per Box
00301	5 Lbs.	6	19"	3-1/2"x8"	8"	5	26 Lbs.

FLC-1310

ALWAYS WEAR SAFETY GOGGLES WHEN USING HAND TOOLS  
TOLL FREE-1-800-543-3224



## GRUB HOE NO. 30



High carbon steel. Heat treated. Slip-on type handle.

Item No.	Net Weight	Eye No.	Tool Length	Blade Size	Handle Length	Quantity Per Box	Weight Per Box
00408	3-1/2 Lbs.	8	10-3/4"	3-3/4" x 7-1/4"	36"	5	32 Lbs.

FLC-1310

## TAMPERS AND POST HOLE DIGGERS

### TAMPER TOP POST HOLE DIGGER NO. 49



Used for digging post holes and tamping earth. One-piece high carbon steel.

Item No.	Net Weight	Stock	Length	Quantity
02701	17 Lbs.	1"	69"	1

### HEXAGON TELEGRAPH DIGGING BARS NO. 49T



Used to dig holes for insertion of posts and to line up long posts once they are in and being tamped into place.

Item No.	Net Weight	Stock	Length	Quantity
02716	17 Lbs.	1"	72"	1
02717	28 Lbs.	1-1/8"	96"	1

### POST HOLE DIGGER NO. 49PH



Conforms to Federal Specification No. GGG-D-326C

Designed for all types of heavy or gravel soils. Digs a 5-3/4" diameter hole. Blade size 9" long x 5-1/4" wide. High carbon steel, square shoulder, hardwood handle, bolted to frame.

Item No.	Blade Size	Quantity	Weight Per Box
02702	9" x 5-1/4"	2	17-1/2 Lbs.

### TAMPERS NO. 47



Item No.	Net Weight	Head Size	Handle Length	Quantity	Weight Per Box
02703	11 Lbs.	8" x 8"	42"	1	13 Lbs.
02704	14 Lbs.	10" x 10"	42"	1	16 Lbs.

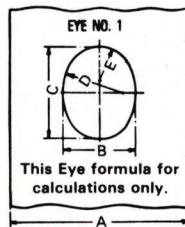


## HANDLES

Item No.	Handle Length	Eye Size	Quantity Per Pack	Weight Per Pack
<b>PICK HANDLE OR 5# MATTOCK HANDLE</b>				
90350	36"	6"	5	13 Lbs.
<b>DRIFTING PICK/GARDEN MATTOCK HANDLE</b>				
90351	36"	10"	5	13 Lbs.
<b>3# MATTOCK HANDLE</b>				
90352	36"	7"	5	10 Lbs.
<b>GRUB HOE HANDLE</b>				
90353	36"	8"	5	13 Lbs.
<b>AXE EYE WOODSPLITTER HANDLE</b>				
90354	36"	5"	5	8 Lbs.
<b>SINGLE BIT WOODSPLITTER HANDLE</b>				
90355	36"	7/8"x2-1/2"	5	7 Lbs.
<b>CURVED AXE HANDLE - SINGLE BIT</b>				
90356	36"		6	9 Lbs.
<b>STRAIGHT SINGLE BIT AXE HANDLE</b>				
90357	36"		6	9 Lbs.
<b>MICHIGAN DOUBLE BIT STRAIGHT AXE HANDLE</b>				
90358	36"		6	9 Lbs.
<b>BOYS' SINGLE BIT AXE HANDLE</b>				
90359	28"		4	5 Lbs.
<b>SLEDGE AND WOODSPLITTER HANDLE</b>				
90360	36"	1" x 1-3/8"	10	15 Lbs.
<b>SLEDGE HANDLE</b>				
90361	36"	1-1/4" x 1-1/2"	10	15 Lbs.
<b>HAND DRILL HAMMER HANDLE (2# TO 4#)</b>				
90362	10-1/2"	3/4" x 1"	10	4 Lbs.
<b>ENGINEER OR BLACKSMITH HAMMER HANDLE (2# TO 4#)</b>				
90363	16"	3/4" x 1"	10	4 Lbs.
<b>ENGINEERS' / HAND DRILLING HAMMER (2# TO 2-1/2#) NULOK-POLYBAGGED</b>				
30536	10"	3/4" x 1"	5	4 Lbs.
<b>ENGINEERS' / HAND DRILLING HAMMER (3# TO 4#) NULOK-POLYBAGGED</b>				
30548	15"	3/4" x 1"	5	6 Lbs.
<b>SLEDGES/MAULS (6# TO 8#) NULOK-POLYBAGGED</b>				
30552	32"	3/4" x 1"	5	12 Lbs.
<b>SLEDGES/MAULS (6# TO 8#) NULOK-POLYBAGGED</b>				
30556	36"	1" x 1-3/8"	5	12 Lbs.
<b>SLEDGES (10# TO 16#) NULOK-POLYBAGGED</b>				
30560	36"	1" x 1-3/8"	5	12 Lbs.

## EYE SPECIFICATIONS

The shapes of the eyes of the different tools listed and described in the preceding pages are designated by numbers corresponding to those of the U.S. Dept. of Commerce Heavy Forged Hand Tools Simplified Practice Recommendation - R17-47, effective October 15, 1947.

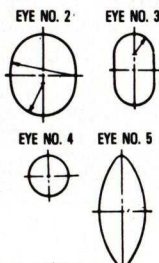


This Eye formula for calculations only.

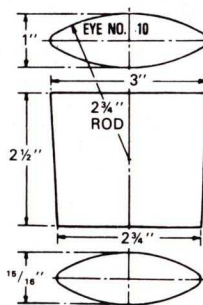
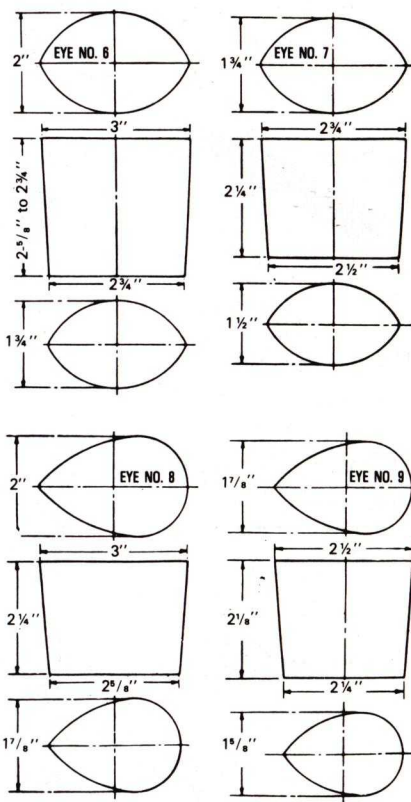
Eye formula:

A—Size of Stock  
B—40 per cent of A  
C—125 per cent of B (approximate)  
D—5/6 of B  
E—To suit dimensions B, C, and D

NOTE — Manufacturers have a tolerance limit of 1/16 inch above and 1/32 inch under all eyes to allow for punch wear.



On eyes #2,3,4,  
—3° taper on cross section  
—4° taper on long section



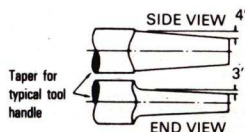
### SKETCH OF STANDARD SLEDGE EYE



Eye tapered 4 degrees toward the center.  
Longitudinal Section



Eye tapered 3 degrees toward the center.  
Cross Section





# Warren STRIKING AND STRUCK TOOLS



Warren hammers have been recognized for their quality since 1911. Our broad selection of styles and sizes will satisfy even the most demanding customer.

## SAFETY RULES, REQUIREMENTS, AND LIMITATIONS OF HEAVY STRIKING AND STRUCK TOOLS

The striking and struck faces of tools are designed to direct the force of blows toward the center or body of the tool. Blows struck off center are not directed toward the body of the tool where they can be absorbed, but rather travel directly along the sides of the tool where there is insufficient back-up material. The net effect is shearing, rather than cushioning, and is dangerous.

Striking and struck tools are made in various types and sizes, with varying degrees of hardness and different configurations for specific purposes. They should be selected for their intended use and used only for that purpose. Proper use of practically all types involves certain basic rules:

1. Always wear safety goggles when using striking or struck tools, or when near someone else who is doing so.
2. A hammer blow should always be struck squarely with the hammer striking face parallel with the surface being struck. Always avoid glancing blows and over and under strikes.
3. The striking face of the hammer should have a diameter approximately  $\frac{3}{8}$ " larger than the struck face of the tool.
4. Never use one hammer to strike another hammer.
5. Never use a striking or struck tool with loose or damaged handle.
6. Discard any striking or struck tool if it shows dents, cracks, chips, mushrooming, or excessive wear.
7. Never redress striking tools. Cutting edges of these tools may be returned to the original shape with a file or whetstone.

TOLL FREE-1-800-543-3224

ALWAYS WEAR SAFETY GOGGLES WHEN USING HAND TOOLS



## BLACKSMITHS' OR ENGINEERS' HAMMERS AND DOUBLE FACE SLEDGES

**DESCRIPTION.** This is the most commonly used type of sledge hammer and is made in slightly different head configurations. All patterns have crowned striking faces with beveled edges.

**PROPER USES.** Sledges are designed for general sledging operations in striking wood, metal, concrete or stone. Common uses are drifting heavy timbers and striking spikes, cold chisels, rock drills and hardened nails, and wood splitting wedges.

**ABUSE/MISUSE.** NEVER use a sledge to strike a hammer, sledge, or maul. NEVER use a sledge with a loose or damaged handle.

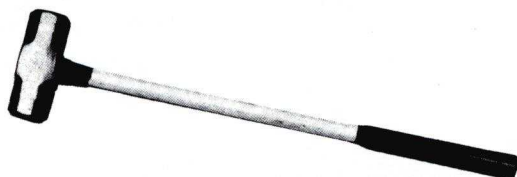
### NO. 84H



High carbon steel, heat treated. Machined, polished faces. Top grade handle.

Item No.	Net Weight (Head Only)	Eye Size	Tool Length	Face	Handle Length	Quantity Per Box	Weight Per Box
01102	2 Lbs.	3/4"x1"	4-1/4"	1-3/8"	16"	5	13 Lbs.
01104	2-1/2 Lbs.	3/4"x1"	4-1/2"	1-1/2"	16"	5	16 Lbs.
01106	3 Lbs.	3/4"x1"	4-3/4"	1-5/8"	16"	5	18 Lbs.
01107	4 Lbs.	3/4"x1"	5-1/4"	1-3/4"	--	5	21 Lbs.
01108	4 Lbs.	3/4"x1"	5-1/4"	1-3/4"	16"	5	23 Lbs.
01110	4 Lbs.	3/4"x1"	5-1/4"	1-3/4"	32"	5	24 Lbs.
01111	6 Lbs.	1"x1-3/8"	6"	2-1/8"	--	5	31 Lbs.
01112	6 Lbs.	1"x1-3/8"	6"	2-1/8"	36"	5	37 Lbs.
01113	8 Lbs.	1"x1-3/8"	6-1/2"	2-1/4"	--	5	41 Lbs.
01114	8 Lbs.	1"x1-3/8"	6-1/2"	2-1/4"	36"	5	47 Lbs.
01115	10 Lbs.	1"x1-3/8"	7"	2-1/2"	--	5	51 Lbs.
01116	10 Lbs.	1"x1-3/8"	7"	2-1/2"	36"	5	58 Lbs.
01117	12 Lbs.	1"x1-3/8"	7-1/2"	2-5/8"	--	5	61 Lbs.
01118	12 Lbs.	1"x1-3/8"	7-1/2"	2-5/8"	36"	5	68 Lbs.
01120	16 Lbs.	1"x1-3/8"	8-1/4"	2-7/8"	36"	4	71 Lbs.
01122	20 Lbs.	1-1/4"x1-1/2"	8-3/4"	3-1/8"	36"	2	47 Lbs.

## DOUBLE FACE SLEDGES NO. 84HFG WITH FIBERGLASS HANDLES



Nupla® Fiberglass handles with exclusive NULOK™ fastening technology. High carbon steel, heat treated. Machined polished faces.

Item No.	Net Weight (Head Only)	Eye Size	Tool Length	Face	Handle Length	Quantity Per Pack	Weight Per Pack
91112	6 Lbs.	1"x1-3/8"	6"	2-1/8"	36"	2	15 Lbs.
91114	8 Lbs.	1"x1-3/8"	6-1/2"	2-1/4"	36"	2	19 Lbs.
91116	10 Lbs.	1"x1-3/8"	7"	2-1/2"	36"	2	23 Lbs.

## BLACKSMITHS' HAND HAMMERS AND CROSS PEIN SLEDGES

**DESCRIPTION.** These heavy-duty hammers are designed for blacksmiths' use in striking metal. Striking face is crowned with beveled edge.

**PROPER USES.** The striking face is designed for general blacksmith work in striking unhardened metal. The peins are used for shaping (fullering) and bending unhardened metal.

**ABUSE/MISUSE.** NEVER use a sledge to strike a hammer, sledge or maul.

### NO. 85H



High carbon steel, heat treated. Machined, polished faces. Top grade handle.

Item No.	Net Weight (Head Only)	Eye Size	Tool Length	Face	Handle Length	Quantity Per Box	Weight Per Box
01302	2 Lbs.	3/4"x1"	4-1/2"	1-3/8"	16"	5	13 Lbs.
01306	3 Lbs.	3/4"x1"	5"	1-5/8"	16"	5	18 Lbs.
01308	8 Lbs.	1"x1-3/8"	7"	2-1/4"	36"	5	47 Lbs.

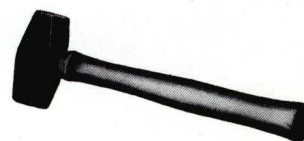
## NEW ENGLAND PATTERN HAND DRILLING HAMMERS

**DESCRIPTION.** These heavy, short-handled hammers are made in slightly varying configurations. The double-faced head has crowned and beveled striking faces.

**PROPER USES.** These hammers are designed for use with chisels, punches, star drills and hardened nails. Their design permits heavy blows with limited swing—especially advantageous in restricted working areas.

**ABUSE/MISUSE.** NEVER use these tools for sledging or stone work.

### NO. 80H



High carbon steel, heat treated. Machined, polished faces. Top grade handle.

Item No.	Net Weight (Head Only)	Eye Size	Tool Length	Face	Handle Length	Quantity Per Box	Weight Per Box
01002	2 Lbs.	3/4"x1"	3-1/2"	1-1/4"	10-1/2"	5	13 Lbs.
01004	3 Lbs.	3/4"x1"	4"	1-1/2"	10-1/2"	5	18 Lbs.
01006	4 Lbs.	3/4"x1"	4-1/2"	1-5/8"	10-1/2"	5	23 Lbs.

FLC-2454



## WESTERN PATTERN STRIKING HAMMERS NO. 75H



High carbon steel. Heat treated. Machined, polished faces. Top grade handle.

Item No.	Net Weight (Head Only)	Eye Size	Tool Length	Face	Handle Length	Quantity Per Box	Weight Per Box
00804	4 Lbs.	3/4" x 1"	5-3/4"	1-1/2"	32"	5	24 Lbs.
00810	8 Lbs.	1" x 1-3/8"	7-1/4"	1-15/16"	36"	5	47 Lbs.
00812	10 Lbs.	1" x 1-3/8"	7-3/4"	2-1/8"	35"	5	58 Lbs.

4 lbs. - FLC-2454

FLC - 2456

## BUSH HAMMER NO. 60H



Alloy steel, heat treated.

Item No.	Net Weight (Head Only)	Eye Size	Tool Length	Face	Handle Length	Quantity Per Box	Weight Per Box
00502	4 Lbs.	3/4" x 1"	6"	1-3/4"	16"	2	11 Lbs.

FLC-2454

## STONE SLEDGE AND SPALLING HAMMERS

**DESCRIPTION.** These are stone masons' tools. The sledge has a crowned, oval striking face with a napping face opposite. The spalling hammer has a beveled striking face.

**PROPER USES.** Sledges are designed for breaking up stone and concrete. The spalling hammers are designed for cutting and shaping stone and concrete.

**ABUSE/MISUSE.** NEVER use these tools for striking metal.

## STONE SLEDGE NO. 74H



High carbon steel, heat treated. Machined, polished face. Top grade handle.

Item No.	Net Weight (Head Only)	Eye Size	Tool Length	Face	Handle Length	Quantity Per Pack	Weight Per Pack
00702	12 Lbs.	1" x 1-3/8"	8-1/4"	2-5/8"	36"	5	65 Lbs.

## SPALLING HAMMERS NO. 71H



High carbon steel, heat treated. Machined, polished faces. Top grade handle.

Item No.	Net Weight (Head Only)	Eye Size	Tool Length	Face	Handle Length	Quantity Per Pack	Weight Per Pack
00604	4 Lbs.	3/4" x 1"	6-1/4"	1-1/4" x 1-7/8"	16"	5	23 Lbs.

4 lbs. - FLC-2454

FLC - 2456

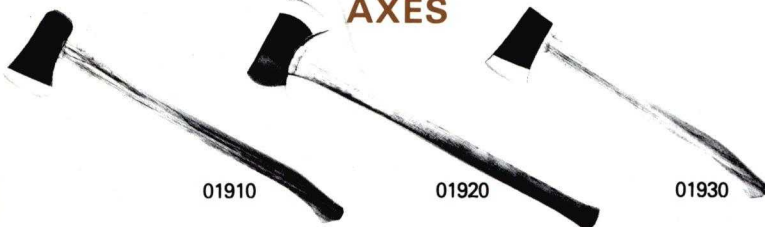


# Warren WOODSPLITTING TOOLS



Top quality woodsplitting tools made in the U.S.A.

## AXES



High quality design and superior engineering make Warren axes the hard-working leaders.

Item No.	Net Weight (Head Only)	Length	Quantity Per Pack	Weight Per Pack
<b>MICHIGAN SINGLE BIT NO. 114</b>				
01910	3-1/2 Lbs.	32"/36"	2	9-1/2 Lbs.
<b>MICHIGAN DOUBLE BIT NO. 115</b>				
01920	3-1/2 Lbs.	36"	2	9-1/2 Lbs.
<b>BOYS' NO. 116</b>				
01930	2-1/4 Lbs.	28"	2	7 Lbs.

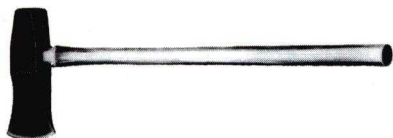
## WOODSPLITTING MAULS

**DESCRIPTION.** Woodchoppers' mauls have a round, bevel-edged striking face with a splitting edge opposite.

**PROPER USES.** These tools are designed for splitting wood. Also, they are used in conjunction with wood splitting wedges by first making a notch with the splitting edge and then driving the wedge with the maul's striking face.

**ABUSE/MISUSE.** NEVER use this tool in striking concrete. NEVER drive one maul by striking with another maul, sledge or other striking tool.

### SLEDGE EYE NO. 112H



Item No.	Net Weight (Head Only)	Eye Size	Tool Length	Face	Bit	Handle Length	Quantity Per Box	Weight Per Box
01802	6 Lbs.	1"x1-3/8"	8-1/2"	1-7/8"	3-1/2"	32"/36"	5	33 Lbs.
01804	8 Lbs.	1"x1-3/8"	9-1/8"	2-1/8"	4"	32"/36"	5	43 Lbs.

### AXE EYE NO. 113H

Item No.	Net Weight (Head Only)	Eye Size	Tool Length	Face	Bit	Handle Length	Quantity Per Box	Weight Per Box
01902	6 Lbs.	7/8" x 2-1/2"	8-1/2"	1-7/8"	3-1/2"	32"/36"	5	33 Lbs.
01904	8 Lbs.	7/8" x 2-1/2"	9-1/8"	2-1/8"	4"	32"/36"	5	43 Lbs.

High carbon steel, heat treated. Machined, polished faces. Top grade handle.

## WOOD SPLITTING WEDGES

**PROPER USES.** Wood splitting wedges are designed for splitting logs, firewood, staves and other wood products. Always use a woodchoppers' maul or an axe to make a starting notch. Wedges should be struck with a sledge or woodchoppers' maul having a larger striking face than the struck face of the wedge.

### SQUARE HEAD WEDGES NO. 120



High carbon steel.

Item No.	Net Weight	Approx. Length	Approx. Head	Bit	Quantity Per Box	Weight Per Box
03601	3 Lbs.	8"	1-1/2"	1-3/4"	10	31 Lbs.
03602	4 Lbs.	9"	1-5/8"	1-7/8"	10	41 Lbs.
03603	5 Lbs.	9-1/2"	1-3/4"	2"	10	51 Lbs.
03604	6 Lbs.	10"	1-7/8"	2-1/8"	10	61 Lbs.
03605	8 Lbs.	11"	2-1/8"	2-3/8"	5	41 Lbs.

FLC-2480

### EXPANSION WEDGE NO. 121



High carbon steel.

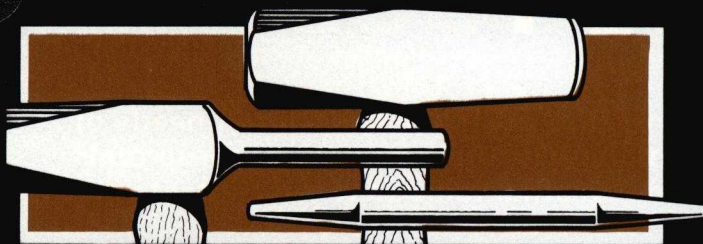
Item No.	Net Weight	Approx. Length	Approx. Head	Bit	Quantity Per Box	Weight Per Box
03606	6-1/2 Lbs.	13-3/4"	1-1/2" x 1-1/4"	2"	10	66 Lbs.

FLC-2480

**ALWAYS WEAR SAFETY GOGGLES WHEN USING HAND TOOLS**  
**TOLL FREE-1-800-543-3224**



# Warren BLACKSMITHS' AND CONSTRUCTION TOOLS



Special-purpose tools for construction sites and blacksmiths' operations.

## BLACKSMITHS' PUNCHES AND CHISELS

**DESCRIPTION.** The punch end of the backing out punch is the same diameter from point to body, and has a fitted handle.

**PROPER USES.** Blacksmiths' backing out punches are designed for backing out bolts, rivets and pins.

**ABUSE/MISUSE.** NEVER use a punch with a mushroomed struck face or a chipped or deformed point.

**WHEN TO REPLACE.** Discard any punch if it is bent or shows cracks, chips, mushrooming or excessive wear. If point end is deformed, it may be redressed.

### NO. 162BXH



### BLACKSMITHS' COLD CHISELS ALLOY - GRADE B

Alloy steel, heat treated.

Item No.	Net Weight (Head Only)	Eye Size	Tool Length	Bit Width	Handle Length	Quantity Per Box	Weight Per Box
05304	3 Lbs.	3/4" x 1"	7"	1-1/2"	16"	10	36 Lbs.
05306	5 Lbs.	3/4" x 1-3/8"	8"	1-3/4"	24"	5	30 Lbs.

### NO. 179H



### BACKING OUT PUNCHES CARBON

High carbon steel.

Item No.	Net Weight (Head Only)	Eye Size	Tool Length	Punch Diameter	Handle Length	Quantity Per Box	Weight Per Box
05702	2 Lbs.	3/4" x 1"	7-1/2"	1/2"	16"	5	13 Lbs.
05704	2-1/4 Lbs.	3/4" x 1"	7-3/4"	5/8"	16"	5	15 Lbs.
05706	2-1/2 Lbs.	3/4" x 1"	8"	3/4"	16"	10	31 Lbs.
05708	3 Lbs.	3/4" x 1"	8-1/4"	7/8"	16"	10	36 Lbs.
05710	3-1/4 Lbs.	3/4" x 1"	8-1/2"	1"	16"	10	39 Lbs.

### NO. 176



### BARREL TYPE DRIFT PINS

High carbon steel.

Item No.	Net Weight (Tool Only)	Size	Stock	Length	Quantity Per Box	Weight Per Box
05901	5 oz.	1/2"	9/16"	6-1/2"	50	18 Lbs.
05902	9 oz.	5/8"	11/16"	7"	50	30 Lbs.
05903	12 oz.	3/4"	13/16"	7-1/2"	50	39 Lbs.
05904	18 oz.	7/8"	15/16"	8"	50	58 Lbs.
05905	25 oz.	1"	1-1/16"	8-1/2"	50	80 Lbs.



# Warren RAILROAD/TRACK MAINTENANCE TOOLS

The Warren line of railroad tools provides what you need to meet the specialized needs of customers requiring tools made to A.R.E.A. specifications. The most popular of these tools are shown in this section of our catalog. For information on other railroad tools, contact your Customer Service representative.

The Warren Tool Group's experience in heavy hand tools for railroad use has developed these features:

**STEEL** — High carbon special quality or special electric furnace steel for Devil tools which meets or exceeds all A.R.E.A. specifications.

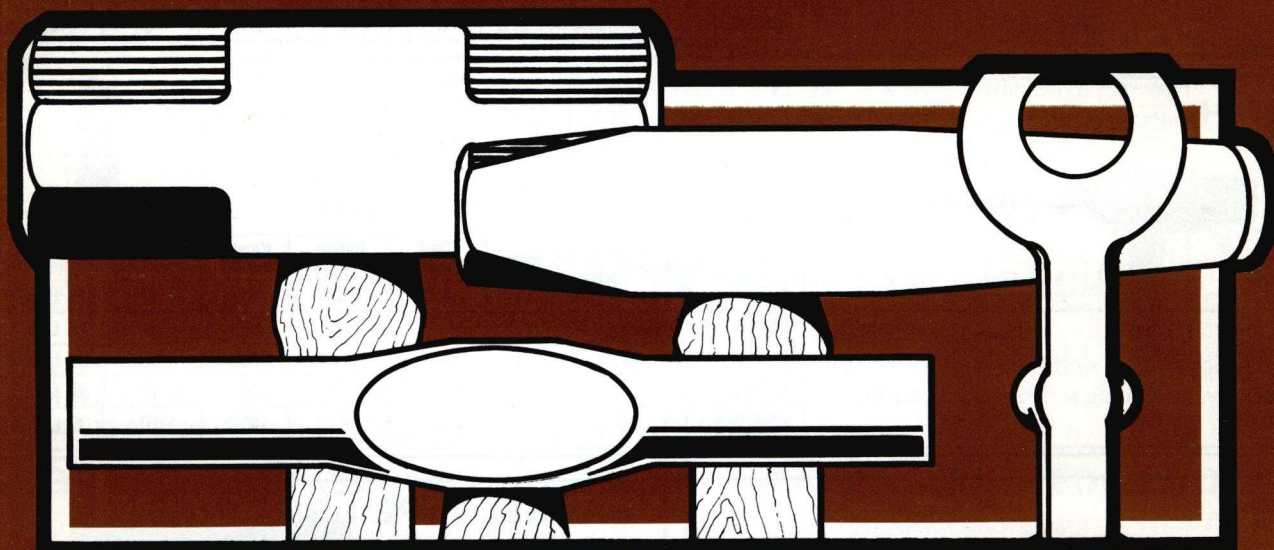
**FINISH** - All striking faces and cutting bits are polished. Devil alloy tools are furnished with natural finish.

**BALANCE** — Accurately machined radii on striking tools, cutting edges ground to gauge, and close attention to A.R.E.A. specifications make Warren tools top performers for track work.

**HANDLES** — A.R.E.A. recommended (or better) grade hickory, flame finished and lacquered or natural finish and waxed to resist weather and vermin damage. Hydraulically driven and wedged, and most important, accurately inserted at the factory.

**TREATMENT** - All tools receive deep heat treatment. Increased depth of hardness gives longer tool life.

**QUALITY CONTROL** — All types of railroad track tools receive numerous visual examinations as they are being processed as well as physical tests for proper hardness and dimensional accuracy. In addition, alloy spike mauls, track chisels and sledges are 100% Magnaglo inspected for seams, forging laps and quench cracks.



TOLL FREE-1-800-543-3224

ALWAYS WEAR SAFETY GOGGLES WHEN USING HAND TOOLS



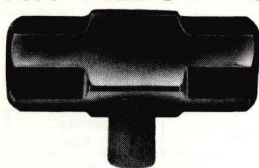
## BELL PATTERN SPIKE MAULS NO. 101BXH ALLOY - GRADE B



AREA plan 3-78.

Item No.	Net Weight (Head Only)	Eye Size	Diameter		Length	Handle Length	Quantity Per Box	Weight Per Box
			Long End	Short End				
92241	10 Lbs.	1"x1-3/8"	1-1/4"	1-5/8"	15"	--	5	51 Lbs.
92242	10 Lbs.	1"x1-3/8"	1-1/4"	1-5/8"	15"	36"	4	47 Lbs.

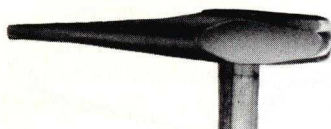
## DOUBLE FACE BLACKSMITHS' SLEDGES NO. 84BXH ALLOY - GRADE B



AREA plan 13-78.

Item No.	Net Weight (Head Only)	Eye Size	Tool Length	Face	Handle Length	Quantity Per Box	Weight Per Box
92208	4 Lbs.	3/4"x1"	5-1/4"	1-3/4"	16"	5	23 Lbs.
92212	6 Lbs.	1"x1-3/8"	6"	2-1/8"	36"	5	37 Lbs.
92214	8 Lbs.	1"x1-3/8"	6-1/2"	2-1/4"	36"	5	47 Lbs.
92216	10 Lbs.	1"x1-3/8"	7"	2-1/2"	36"	5	58 Lbs.
92218	12 Lbs.	1"x1-3/8"	7-1/2"	2-5/8"	36"	5	68 Lbs.
92220	16 Lbs.	1"x1-3/8"	8-1/4"	2-7/8"	36"	4	71 Lbs.

## TRACK PUNCH NO. 156BXH ALLOY - GRADE B



AREA plan 19-62.

Item No.	Net Weight (Head Only)	Eye Size	Tool Length	Pole Diameter	Handle Length	Quantity Per Box	Weight Per Box
92262	5-1/2 Lbs.	3/4"x1-3/8"	13"	11/16"	24"	5	34 Lbs.

## TRACK CHISEL NO. 161BXH ALLOY - GRADE B



AREA plan 17-62.

Item No.	Net Weight (Head Only)	Eye Size	Tool Length	Handle Length	Quantity Per Box	Weight Per Box
92252	5-1/2 Lbs.	3/4"x1-3/8"	10-1/2"	24"	5	34 Lbs.

## WEDGE POINT CROWBARS NO. 40



Used to pry and move heavy objects. High carbon steel. Smooth taper, roll forged. AREA plan 5-62.

Item No.	Net Weight	Stock	Length	Quantity
02001	10 Lbs.	1"	48"	1
02002	12 Lbs.	1-1/8"	51"	1
02005	18 Lbs.	1-1/4"	60"	1
02006	22 Lbs.	1-3/8"	64"	1
02007	26 Lbs.	1-1/2"	66"	1

FLC-2491

## PINCH POINT CROWBARS NO. 41



Used to pry and move heavy objects. High carbon steel. Smooth taper, roll forged. AREA plan 5-62.

Item No.	Net Weight	Stock	Length	Quantity
02101	6 Lbs.	7/8"	36"	1
02102	10 Lbs.	1"	48"	1
02103	12 Lbs.	1-1/8"	51"	1
02106	18 Lbs.	1-1/4"	60"	1
02107	22 Lbs.	1-3/8"	64"	1
02108	26 Lbs.	1-1/2"	66"	1

FLC-2491

## DIAMOND POINT LINING BARS NO. 42



Used to pry and move heavy objects. High carbon steel. Smooth taper, roll forged. AREA plan 5-62.

Item No.	Net Weight	Stock	Length	Quantity
02201	18 Lbs.	1-1/4"	60"	1
02202	22 Lbs.	1-3/8"	64"	1
02203	26 Lbs.	1-1/2"	66"	1

FLC-2491



## CLAW BAR (AREA C PATTERN) NO. 43C



AREA plan 11-78.

Item No.	Net Weight	Slot Size	Quantity
02302	27 Lbs.	7/8"	1

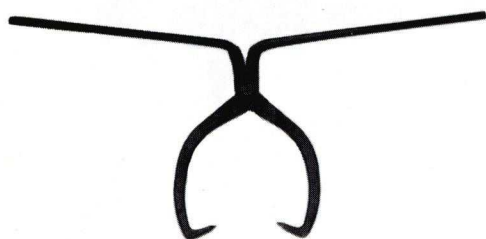
## RAIL FORK NO. 158



AREA plan 10-62.

Item No.	Net Weight	Quantity Per Box	Weight Per Box
06201	13 Lbs.	2	26 Lbs.

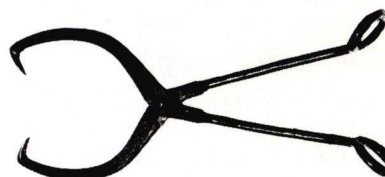
## 2 MAN TIMBER TONG NO. 152



AREA plan 8-62.

Item No.	Net Weight	Jaw Opening	Quantity Per Box	Weight Per Box
06302	12 Lbs.	4" to 15-1/2"	4	48 Lbs.

## ONE MAN TIE TONG NO. 152A



AREA plan 7-62.

Item No.	Net Weight	Jaw Opening	Quantity Per Box	Weight Per Box
06303	10 Lbs.	4" to 15-1/2"	4	40 Lbs.

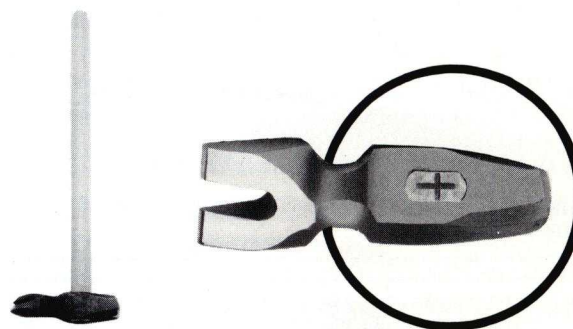
## 4-KNOB SPIKE PULLER NO. 149



AREA plan 9-62.

Item No.	Net Weight	Jaw Opening	Jaw Width	Tool Length	Quantity Per Box	Weight Per Box
05101	2-1/2 Lbs.	3/4"	1-3/8"	12"	10	26 Lbs.

## SPIKE LIFTER NO. 159BXH ALLOY - GRADE B



AREA plan 32-62.

Item No.	Net Weight	Eye Size	Slot Size	Handle Length	Quantity Per Box	Weight Per Box
92250	6 Lbs.	1"x1-3/8"	7/8"	36"	2	15 Lbs.



Our company has been in business for over half a century, and out of that experience and service we have developed a tradition to which we credit our success, and a philosophy upon which we base our future.

## ***WE MAKE TOOLS BUT WE SELL SATISFACTION***

We have written our philosophy into a declaration of beliefs, which stand as a guide to everyone who works at Warren Tool. We know that to assure our success now and in the future, we must translate our beliefs into action every working day. Customer satisfaction must be our constant focus. We must preserve our reputation for excellence, and constantly seek better ways to do our job by using our statement of beliefs to the best of our individual abilities. Our philosophy is written for those of us who work at Warren Tool, but it is also a commitment to you and an inside look at who we are. We call it our . . .

## **FIVE TOOLS FOR EXCELLENCE**

**FIRST:** We must have HIGH PRODUCTIVITY. In all that we do, we must work efficiently and effectively every day. This is commonly recognized as being important in production jobs, but it really is equally important throughout our company. Press operators and executives, bookkeepers and salesmen, telephone operators and order pickers, all of us must decide every day to be productive.

**SECOND:** More important than productivity is RESPONSIVENESS. To work effectively together, we must respond to one another's needs. To work effectively for our customers, we must respond promptly, courteously and professionally to whatever they reasonably ask of us. There will be occasions when we must choose between productivity and responsiveness, and while we must work hard to provide both, we should on those occasions favor responsiveness.

**THIRD:** QUALITY. In all jobs, with all products, with all services, we must do high quality work. The world is full of lower cost tools than we sell, and lower cost materials than we buy, and lower cost accountants and machinists and laborers and programmers than we employ. Therefore, it must be the quality of our work that sets us apart. The tools themselves must be the best in the world. We must answer the phone more nicely, pack the orders more accurately, prepare the accounting records right the first time, purchase materials properly. Quality must be on our minds every day. There will be times when we cannot both be responsive and provide the desired level of quality. At those times, we must choose quality over responsiveness.

**FOURTH:** We must develop and maintain excellent COMMUNICATION. Internally, we must constantly strive to keep one another informed of what we are doing, where we are having problems, and what help we need from each other to accomplish our objectives. Externally, we must stay in close touch with our suppliers to keep them aware of our needs, and most important, we must make sure our customers know what they can expect from us. In cases where we cannot be responsive, in cases where we cannot provide the desired quality, we must communicate that. The angriest customer of all is the one who is surprised by a problem, and that surprise can be avoided only by communication.

**FIFTH:** Most important of all is SAFETY. In how we work and in what we make, safety must be the very top priority. We can work productively, we can be responsive, we can do quality work, we can communicate effectively, but if we do all that at the expense of safety, it is not worth doing. By knowing that every tool we make has been made right, we can help to assure the safety of our customers. By being aware of the safety implications of all our actions - closing file drawers, assuring that machine guards are in place and operating properly, wearing safety equipment when it is required, driving with the seat belts buckled - we can reduce substantially the risk of injury to ourselves and to each other.

Look back at the first TOOL FOR EXCELLENCE. PRODUCTIVITY is very, very important. Since it is the least important of the five, imagine how important the other four are to each of us individually, and to our future!!



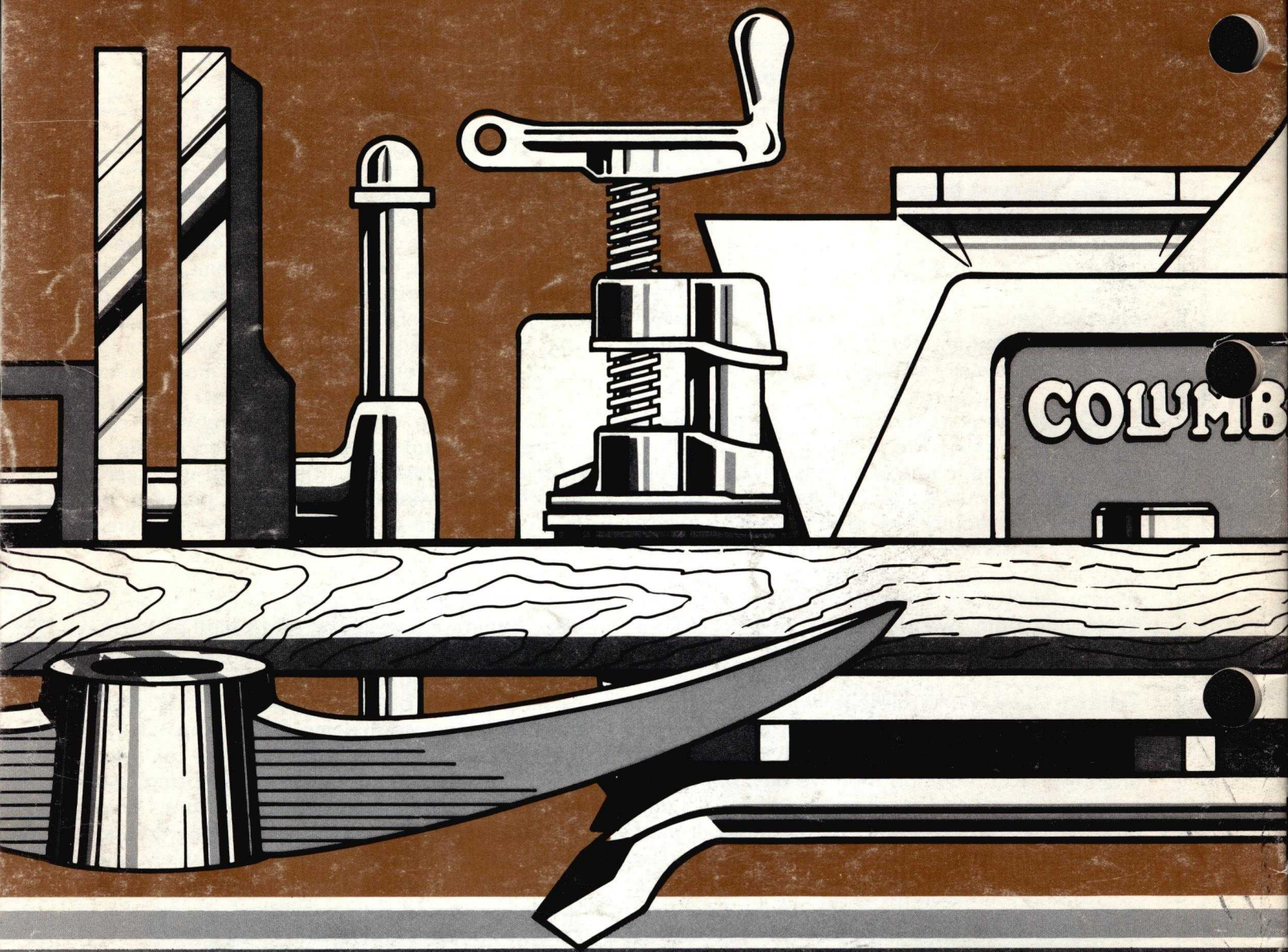
**Warren  
Tool  
Group**

**COLUMBIAN**  
**HARGRAVE**  
SINCE 1879  
**Warren**

**P.O. BOX 68 • HIRAM, OHIO 44234**

***TOLL FREE 1-800-543-3224***

***FAX 1-800-543-3225***



**WE MAKE TOOLS, *BUT WE SELL SATISFACTION...***